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ABSTRACT

This package contains the instructor and participant manuals for eight modules which comprise a portion of the National Training and Development Service Urban Management Curriculum Development Project. These modules focus on long range strategic planning. The specific modules are: (1) Strategic Planning; (2) Situation Analysis; (3) Setting Objectives; (4) Strategy/Decision Making; (5) Project Design; (6) Allocating Resources; (7) Planning for Evaluation; and (8) Using Evaluation. The participant manuals include readings and activities for each module. The instructor's guide includes goals, activities, and materials for presenting each module in a workshop. (MK)

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PARTICIPANT MANUAL

LONG RANGE AND STRATEGIC PLANNING FOR URBAN MANAGERS

Modules 1 - 8

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Package III

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A project of this magnitude could not have come to fruition without the input and feedback from many different people.

The ideas contained in the training materials represent an amalgamation of the many lectures, workshops, and seminars I have presented over the last ten years. While many of the examples used in the training materials are drawn from my own experience, the health forecasting model in "Situation Analysis" was taken from the Executive Planning Process, State of Maryland.

The case study was developed with the cooperation of Larry Blick, City Manager, Rockville, Maryland; Frank Ecker, former Mayor of Rockville (1962-68); Alex Greene, former Mayor of Rockville (1958-62); C. Richard Foote, former City Manager of Rockville; and Jerome Heil, longtime resident of Rockville.

The specific topics covered in the training material were selected with the assistance of the members of the Advisory Council; the staff of the National Training and Development Service, and Jim DeCarlo, Director of the Center for Management Development at Frostburg State College (MD) and Bernard Tetreault, Executive Director, Housing Opportunities, Montgomery County (MD).

The Participant Manual was critiqued for applicability to practitioners by Wallace Hankins, Senior Management Analyst, Department of Budget and Fiscal Planning (MD), and Dr. Jacqueline Rogers, Director, Office of Community Development, Montgomery County (MD). The closest scrutiny, however, was provided by the participants in each of the three field tests.

The final manuscript was produced through the combined efforts of a dedicated and tireless support staff without whom none of this would have happened. I am indebted to Debbie Avaritt and Joan Humphries who typed numerous drafts, revisions, and eventually the final copy of the manuscript; Judith Nulty who created and executed the graphics; and Rachel Kupferberg who edited the numerous drafts, revisions and final copy of this manuscript, and who, steadfast and composed throughout, managed the entire production stage.

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INTRODUCTION

INTRODUCTION

OVERVIEW

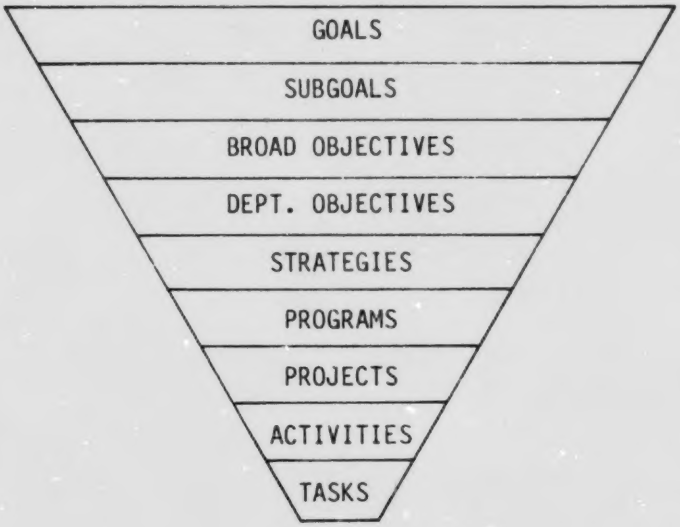
Long Range and Strategic Planning for Urban Managers is designed to provide in-service training to enhance the planning/management skills of those in urban management. The four-day (32-hour) curriculum consists of a case study, a series of lectures accompanied by workshops, and suggested readings. The modules (flip charts, lectures, readings, workshops) include: Strategic Planning; Problem Analysis; Setting Objectives; Strategy/Decision Making; Allocation of Resources; and Planning for Evaluation.

This course was designed around the following concepts:

- The model presented be one to structure thought, not merely a model for writing plans--designed by and for practitioners rather than utilizing an academic approach.
- The units are sequential and mutually dependent, in that particular units build on information presented earlier and, therefore, should be given in order.
- The material can be integrated into a classroom lecture format, but it is designed for a small group learning experience, providing an opportunity to internalize the concepts learned through the lectures, reading, workshops, exercises and critiquing discussions.
- The curriculum could be used as a reference manual once a participant has returned to the work environment.
- The lectures present concepts which are applicable to a broad spectrum of situations and the workshops allow the application of concepts.
- The time spent in discussing the workshop outputs reinforces participant understanding between the concept and the situation.

- The time spent in discussing workshop outputs enables participants to see the variety of approaches which are available in each decision situation.
- Participants learn by doing and from each other.

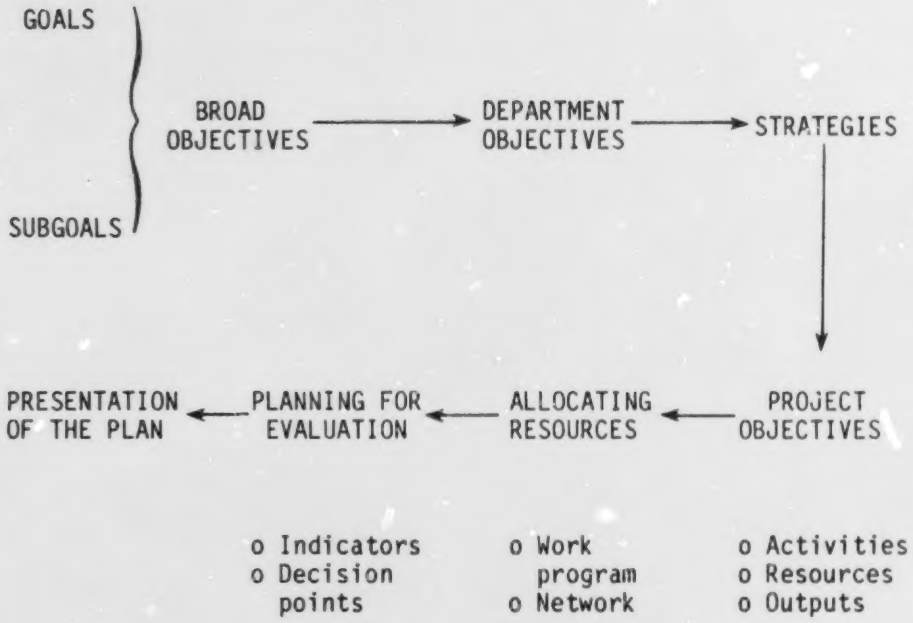
Each module encompasses one or more components of the strategic planning process. The relationship of the components to each other may be seen as an inverted pyramid:



Each work group will develop long range goals and subgoals in the workshop immediately following the first lecture. Both broad objectives and department objectives will be formulated in the objective-setting workshop. Then strategies will be identified and a project selected and specified. A plan for allocating resources as well as a plan for evaluation will evolve toward the end of the course. The final output of the work groups will be the formal presentation demonstrating their understanding of the strategic planning process.

Another way to understand the relationship of the component parts of the strategic planning process is to consider them in the perspective of end products of each workshop. The unique aspect of this process is that the output of each workshop then becomes the starting point (input) for the next workshop.

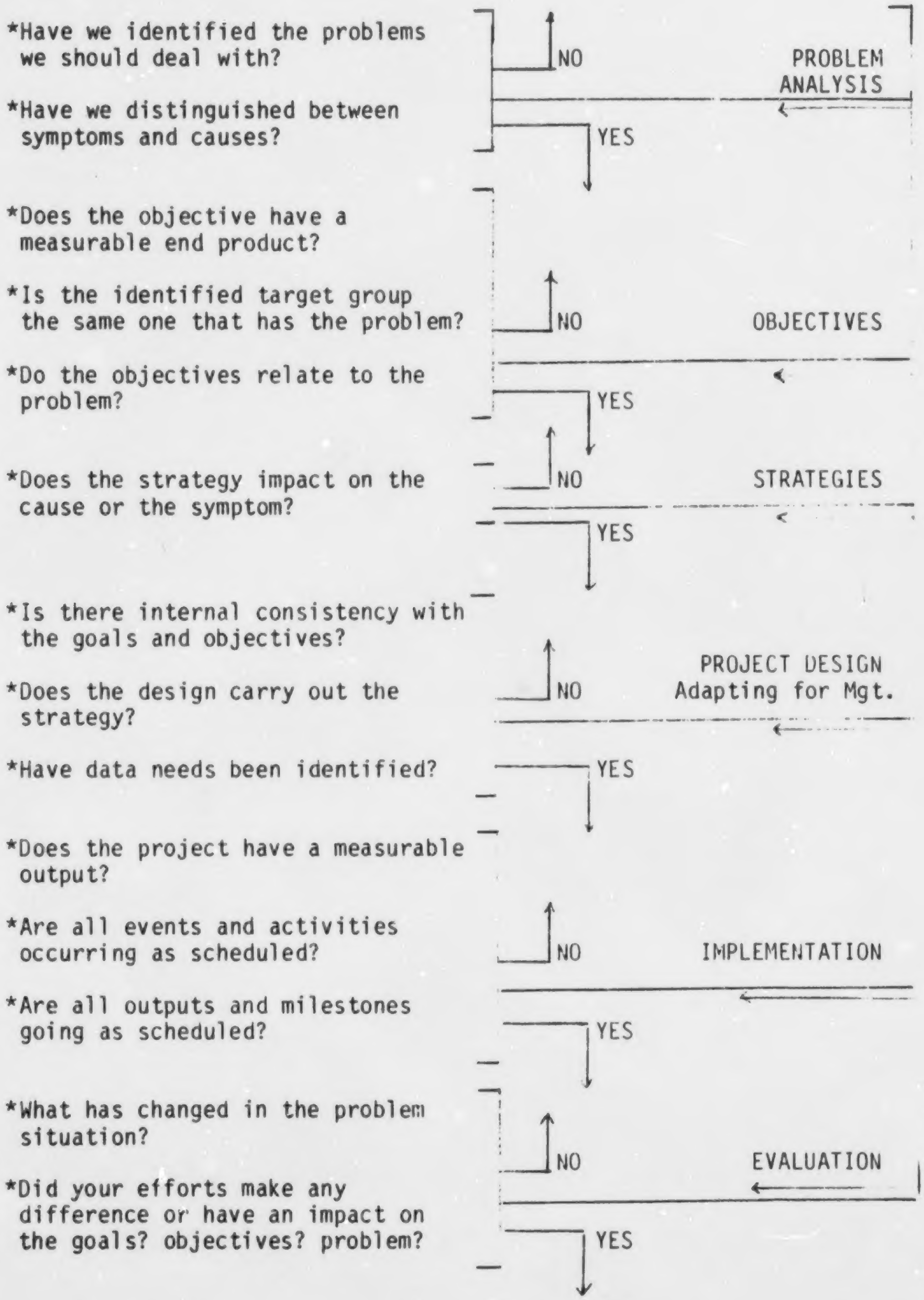
WORKSHOP OUTPUTS


GOALS
SUBGOALS
BROAD OBJECTIVES
DEPARTMENT OBJECTIVES
STRATEGIES
PROJECT OBJECTIVES
ALLOCATING RESOURCES
PLANNING FOR EVALUATION
PRESENTATION OF THE PLAN
o Indicators
o Decision points
o Work program
o Network
o Activities
o Resources
o Outputs

Each lecture is designed to highlight the written materials. Following each lecture there will be a workshop with the development of a specific end product as the assigned task. The ability to complete the task will be governed by an understanding of the concepts covered in this and prior modules. The important thing to remember is that there are no "right" or "wrong" decisions--there are only better decisions. As each module is completed, participants should think about the relationship of that module to the previous modules. Thinking about the linkages will help provide a framework for learning as well as for the final presentation.

There is an integral link between planning and evaluation. The function of evaluation begins with the beginning of the planning process when evaluation questions are first raised. Unless the symptoms have been isolated from the causes, and unless there has been a clear definition of the problem, there should be no movement from problem analysis to objective setting. Unless the objectives have a measurable end product and relate to the problem statement, there should be no movement toward developing strategies to implement objectives. The continuation of the function and its iterative nature can be seen in the following:

GUIDE QUESTIONS DURING THE PLANNING PROCESS



*Have we identified the problems we should deal with?

*Have we distinguished between symptoms and causes?

*Does the objective have a measurable end product?

*Is the identified target group the same one that has the problem?

*Do the objectives relate to the problem?

*Does the strategy impact on the cause or the symptom?

*Is there internal consistency with the goals and objectives?

*Does the design carry out the strategy?

*Have data needs been identified?

*Does the project have a measurable output?

*Are all events and activities occurring as scheduled?

*Are all outputs and milestones going as scheduled?

*What has changed in the problem situation?

*Did your efforts make any difference or have an impact on the goals? objectives? problem?

NO
PROBLEM ANALYSIS
YES
NO
OBJECTIVES
YES
NO
STRATEGIES
YES
NO
PROJECT DESIGN Adapting for Mgt.
YES
NO
IMPLEMENTATION
YES
NO
EVALUATION
YES

OBJECTIVES

Whether this curriculum is presented in a workshop format, a classroom lecture, or as a self-study, it will enable the participant to acquire the skills necessary to achieve the overall course objectives. These objectives are:

- to appreciate the rationale for using the strategic planning process
- to apply and recognize techniques appropriate to the component parts of the strategic planning process
- to demonstrate an understanding of the interrelationship among the parts of the strategic planning process
- to develop an implementing plan evolving from the strategic planning process

MODULES

STRATEGIC PLANNING

Objectives: The objectives of this module are to: become aware of the interrelationship of the component parts of the strategic planning process; appreciate the rationale for formulating goals and subgoals; demonstrate an ability to write goals and subgoals.

Presentation: The major planning products will be linked in a planning chain of logic. The products for the specification of the plan and its adaptation for management purposes will be described. The lecture will describe a process by which an urban manager can move from a problem to identifying goals and objectives, from the problem causes to the strategies. In addition the lecture will describe the process of moving from long range goals to short range incremental planning.

Workshop: The workshop will present participants with an opportunity to formulate long range goals and subgoals applicable to the case study.

Time: Presentation, workshop, and discussion of workshop outputs should take 3 hours.

SITUATION ANALYSIS

Objectives: The objectives of this module are to: use predetermined goals to focus on problem areas; demonstrate an ability to distinguish problem causes from problem symptoms; demonstrate an ability to apply an elementary rate of change forecasting model.

Presentation: Participants wil be exposed to the various elements of problem analysis. The lecture will include: isolating the causes from the symptoms; determining the extent of the problem; and deciding on an appropriate level of involvement. The participants will be exposed to a model which generates alternative strategies based on an identification of the causes.

Workshop: The workshop will present participants with an opportunity to analyze and compare data presented in the case study. Using the results of the data analysis, they will identify the symptoms and causes of significant problems related to the case study, and to selected objectives.

Time: Presentation, workshop, and discussion of workshop outputs should take 5 hours.

SETTING OBJECTIVES

Objectives: The objectives of this module are to: appreciate the rationale for formulating objectives; demonstrate an ability to write objectives meeting stated criteria.

Presentation: The setting of broad objectives will be presented in the framework of the overall goals and subgoals. The lecture will present a definition of objectives and will describe their relationship to the planning process.

Workshop: Participants will have an opportunity to develop objectives based on the case study and goals and subgoals.

Time: Presentation, workshop, and discussion of workshop outputs should take 3 hours.

STRATEGY/DECISION MAKING

Objectives: The objectives of this module are to: distinguish means from ends; recognize various types and applications of strategy; demonstrate the ability to use a force field analysis to develop strategy; recognize various decision making techniques; demonstrate an ability to use a matrix technique for decision making.

Presentation: The lecture will define strategies and will present examples of the uses of strategies in achieving objecives. Various qualitative and quantitative techniques for decision making will be presented.

Workshop Participants will identify the forces which impact on achieving objectives in order to formulate strategies. An analytic technique will then be used to select a viable strategy.

Time: Presentation, workshop, and discussion of workshop outputs should take 4 hours.

PROJECT DESIGN

Objectives: The objectives of this module are to: demonstrate the ability to develop a project evolving from the strategic planning process; appreciate the rationale for having a project design.

Presentation: The lecture will stress the role that the project plays in moving from the conceptual planning to the actual implementation and operation. The development of project objectives, strategy, outputs, activities and inputs will be examined to demonstrate their relationship to the problem causes and the goals and objectives.

Workshop: The workshop will allow participants to demonstrate their skill in selecting projects and formulating project objectives, strategies, outputs, activities, and inputs which relate to specific problems.

Time: Presentation, workshop, and discussion of workshop outputs should take 3 hours.

ALLOCATING RESOURCES

Objectives: The objectives of this module are to: demonstrate an ability to use budget and network techniques to allocate resources; to identify advantages and disadvantages of major budgeting approaches.

Presentation: The lecture will present techniques for allocating and managing both time/staff resources and fiscal resources. The uses of time lines, detailed management plans, PERT, level of effort charts, and staffing requirements will be stressed as techniques for managing non-fiscal resources. The advantages and disadvantages of such tools as line-item budgets, program budgets, program planning budgets, and the combination budget will be stressed.

Workshop: The workshop will provide participants the opportunity to demonstrate their ability to formulate a combination budget, a detailed management plan and a network chart for their selected project.

Time: Presentation, workshop, and discussion of workshop outputs should take 6 hours.

PLANNING FOR EVALUATION

Objectives: The objectives of this module are to: become aware of the on-going use of evaluation information; appreciate the role of evaluation in the strategic planning process; demonstrate the ability to identify indicators of project/program success; demonstrate the ability to develop an evaluation framework.

Presentation: The lecture will stress the ongoing role of evaluation as it relates to management needs. The uses of performance, impact, planning support, and process evaluation will be discussed. The need to prepare for evaluation will be stressed and the steps for doing so will be identified.

Workshop: The workshop will provide an opportunity for participants to identify indicators of success, decision opportunities and sources of data for both performance and impact evaluation of their selected project.

Time: Presentation, workshop, and discussion of workshop outputs should take 5 hours.

GLOSSARY OF TERMS

GOAL (MISSION)	-	a statement of a desired future condition or result which sets the overall direction for the organization.
SUBGOALS	-	further defines the goals by setting the direction for specific concerns
BROAD OBJECTIVES	-	a quantifiable statement of organizational intent
STRATEGY	-	an action statement describing how something is to be accomplished; the means to an end
PROGRAM	-	a number of separate but related projects developed to implement a single strategy
PROJECT OBJECTIVE	-	a quantified statement describing what a project is expected to accomplish
PROJECT DESIGN	-	a specific ordering of activities
INPUTS	-	resources
OUTPUTS	-	the results of one or more project activities
ACTIVITIES	-	those functions undertaken by a project to achieve desired outputs
TASK	-	subelement of an activity
PROBLEM	-	a deviation from a desired state
CRITERIA	-	standards/premises on which priorities are established among alternatives in order to measure relative degree of desirability
INDICATOR	-	a sign (symptom) that something is, or is not, happening
LONG RANGE PLANNING	-	planning for periods usually in excess of 10 years
STRATEGIC PLANNING	-	an orderly and systematic method for integrating the various elements of the planning process

DEVELOPMENT

In response to a needs assessment which was initiated by the U.S. Department of Housing and Urban Development, the National Training and Development Service (Washington, DC) received a contract (from HUD) to commission projects to improve the day-to-day operating skills of local government practitioners. The Management Development Center is one of fifteen projects commissioned by the National Training and Development Service. The curriculum was developed to augment the planning skills of urban managers in a variety of disciplines and across managerial levels.

To insure that the requirements of practicality for in-service and pre-service training, adequacy of content, and replicability were met, curriculum development took place under the auspices of an Advisory Committee comprised of both urban practitioners and representatives from the academic community. Members of the Advisory Committee included: a city manager; president of a public administration professional organization; an administrative assistant to a county executive; and, an urban studies faculty member.

A former municipal administrator and the current Director, Center for Management Development, of a state university have been retained to evaluate the presentation, applicability and impact of the core curriculum. The assessment committee was responsible for developing the assessment instrument, securing feedback from participants, and conducting a sample survey to determine impact of the curriculum on participants.

MANAGEMENT DEVELOPMENT CENTER

The Management Development Center of Maryland is a training organization offering assistance to public agencies in developing effective management. The Center seeks to augment, not supplant, agency efforts in managerial staff development by providing a full range of management training and consulting services including assessing organizational training needs and tailoring courses for in-house use.

The Center is a unit of the Maryland Department of Personnel. It is supported in part by a grant from the U.S. Civil Service Commission under the Intergovernmental Personnel Act of 1970. Its goals are to:

- improve the management skills of public employees
- enhance an organization's in-house training and development competence

- link educational resources with public service training needs
- enhance an organization's ability to identify and solve problems
- advocate excellence in public service management

MODULE 1

STRATEGIC PLANNING

Objectives: The objectives of this module are to: become aware of the interrelationship of the component parts of the strategic planning process; appreciate the rationale for formulating goals and subgoals; demonstrate an ability to write goals and subgoals.

STRATEGIC PLANNING

Strategic planning is the process of determining where you want to be and deciding upon an appropriate means of getting there. It involves a significant time span (we will use 10-15 years for these modules) and provides a coordinated approach to managerial decision making. The model will move from the general to the specific, the long range to the short range, from broad strategies to precise activities and budgets.

HISTORY

Planning has meant many things to many people. To some it has meant government direction and control--something which has never been popular in this country. To others planning means having "wish lists" with little or nothing to do with economic or political reality, which resulted in ambiguity, lack of coherence and overlapping of local effort. In an attempt to bring order to the local planning effort the federal government began in 1949 to provide funds for the development of local master plans.

This was the beginning of the federal explosion in planning assistance. Categorical (special purpose) aids such things as for open space (1961), mass transportation (1964), sewer and water grants (1965), and advance land acquisition (1965) were all based on comprehensive planning. Legislation (1966, 1968) required review and comment by a regional planning agency for all federal grants having regional impact. Also in 1966 Congress created the Demonstration Cities and Metropolitan Planning Act (Model Cities).

Since then there have been air and water quality legislation and community development laws which called for extensive planning elements. A spate of federal grants--for housing, manpower development, transportation, open space, poverty, and health facilties--required that planning agencies be established at the city, regional and/or state levels.

Each plan created conflict among the different interest groups. Those who retained their enthusiasm for planning failed to reckon with the limited power of the federal government over the dynamics which shape cities. Disillusionment with the federal government's inability to deal with urban problems and distress was widespread.

Thus, historically, one branch of planning has had roots in the ground of land use, zoning, housing, and demography (physical planning) while another descends from problems of health, poverty, and education (social planning). The strategic planning model is concerned with process and may be applied to both of these areas and their coordination.

Strategic planning has also developed out of, and borrowed from, the historical and technical developments in the field of management science, systems analysis and corporate planning. The influence and philosophy here is the rational, intentional approach to management. It assumes that it is possible to impose systematic analysis to discreet units and sub-units of the management structure, and to analyze their interrelationships and interactions (systems). It assumes that it is possible to set specific administrative or managerial outcomes and plan to achieve them through Management by Objectives (MBO).

Prior planning responsibility had been assigned to agencies outside the local government structure. The ability of those agencies to implement their plans was limited to their ability to convince local government officials that the plans deserved to be implemented. In the past few years, however, the responsibility for planning has been given to individuals and agencies with the authority to also implement the plans. Coupled with this change has been an understanding that government is unable to provide a panacea. This realism should be conducive to a more positive relationship between government and people. Improved planning can help cement this relationship.

Whether done on a federal, regional, state or local level--by departments, agencies, offices, corporations or advisory groups--planning must be done in a systematic way. Whether done on a long-range, short-range or operational basis, planning must be done in a systematic, organized manner. This systematic approach has been called strategic planning (or rational planning, comprehensive planning, executive planning, long-range planning and policy planning).

Unlike other planning models which must be accepted by the total organization before being implemented. the strategic planning process can be implemented by subunits or individuals. The approach is the same regardless of the scope of implementation: identify where you want to be; select some alternative ways of getting there; formulate several projects to carry you in that direction; and keep looking for milestones along the way to keep you on the right track.

The focus of strategic planning is that an interrelationship exists among the various components of the planning process. These components come together in a way which allows planned change to take place. Strategic planning is unique in that each decision is linked to the results of prior decisions. This linkage means that a decision not to decide will also have impact on future decisions. The strategic planning process utilizes the budget process as a vehicle for reaching long-range goals.

PHASES OF PLANNING AND MANAGEMENT

By emphasizing the logical relationship among the various components of the planning process, the strategic planning process demonstrates the linkage of the various decisions made while moving from GOAL SETTING through PROBLEM ANALYSIS to SETTING OBJECTIVES and formulating STRATEGY on to selecting the appropriate project mix, and finally, to EVALUATION. This movement takes place in four activity phases: 1) specification of the plan; 2) adapting the plan for management purposes; 3) preparing for implementation; and 4) operation of the plan.

Briefly, phase one, specification of the plan, involves six basic activities:

1. Statement of broad direction and general intent. Formulation of goals and subgoals which provide a framework for the direction of the organization.

2. Situation analysis (assessment) which includes the identification of the nature and extent of the problem. It also includes assessing the potential for solving the problem.

   Note: Steps one and two are to a large degree overlapping and interrelated. In practice they may occur simultaneously, or in reverse order depending upon the situation and personal preference.

3. Formulation of overall broad objectives. Establishing specific, measurable outcomes which the organization will plan to reach.

4. Identification of strategies.

5. Identification of alternative projects which have the potential for implementing the strategy and impacting on the problem.

6. Preparation of the plan which includes identifying project objectives, outputs, activities and necessary resources.

Phase two, adapting the plan, involves five basic activities:

1. Preparation of the budget.
2. Preparation of the work program. The work program allows the manager to determine the critical dates, a list of achievables, work flow and staffing needs.
3. Planning for evaluation which includes identification of indicators of success and a determination of how evaluation information will be used.
4. Lobbying and gaining support for the plan.
5. Submission of the plan. Although the actual form (formal/informal) may vary, the basic elements should always be included.

Although the total planning process occurs in four phases, this curriculum will address only the first two. However, as the first two phases are covered, the last two should be kept in mind because the level of expertise applied to the details of the first two phases will determine the effectiveness and efficiency of the last two.

THE PLANNING PROCESS

SPECIFICATION

It is during the specification phase that the ideas are developed and discussed.

GOALS

Step 1 of the specification stage is the formulation of goals and subgoals. By their very nature goals--although worded in a general, non-specific manner--provide the framework for the direction of the organization. Goals are long-range in span, and idealistic in nature. They should indicate the desired conditions that the organization is working to attain. Frequently legislation has goals (e.g., the Model Cities Demonstration Act had as its goal, "The Improvement of the Quality of Urban Life"). Organizations frequently have subgoals which serve to limit their areas of concern by stressing specific points of focus. The subgoal statements use the same format as the goal statements, deal with a narrower subject matter and evolve from, and are consistent with, the goals.

SITUATION ANALYSIS

Step 2 of the specification phase is the situation analysis component. It involves assessing the present situation, identifying current and emerging problems, and analyzing and specifying the problems. The key to this step is the identification of the gap between what is, what will be, and what should be.

The goals and subgoals define the areas in which a positive outcome is considered important and point to the general nature of that outcome. During analysis, you begin by asking, "Where are we now with respect to where we want to be heading?" This should include consideration of the organization's present condition, how it arrived there, and where it seems to be going if things continue on the same course.

Next, define the conditions which fall below a general, acceptable standard. The problem statement should include what the problem is and who has the problem. The most frequent mistake is to identify all the symptoms of a problem and then establish a different project to deal with each one rather than seeking to identify the cause of the symptoms. From the identification of causes you will be better able to generate a strategy which will impact on the problem. In identifying the cause, attention also must be given to the probability of creating significant change, e.g.:

	SYMPTOM:	High incidence of infectious diseases
POSSIBLE CAUSES	CAUSE A:	Lack of remedial health care
	CAUSE B:	Lack of preventive health care
	CAUSE C:	Lack of knowledge of sanitation practices
	CAUSE D:	Existence of human and/or insect carriers

OBJECTIVES

Step 3 is the development of specific, realistic objectives (targets) which will advance the organization toward the goals. Objectives are quantifiable statements of intended outcome (achievement). They are specific as to the time of intended achievement.

After careful consideration of the data developed during the analysis step (step 2), it should be possible to set realistic, specific targets which represent standards which eliminate or minimize the problems identified.

STRATEGIES

Step 4 is the identification of strategies to implement the subgoals. Strategies are action statements which describe a method of attacking the cause, not the symptom, of the problem. Strategies link the problem causes to the projects that are eventually selected. For example:

PROBLEM:	High incidence of infectious disease
CAUSE:	Lack of knowledge about basic sanitation practices
STRATEGY:	Incorporate instruction on environmental practices into basic adult education program

PROJECTS

Step 5 is the identification of alternative projects which have the potential for implementing the chosen strategy. The final selection of a project (or projects) will probably be based on subjective factors, e.g., the need for visibility, as well as quantitative factors, e.g., least cost per participant. Therefore it is important to define those criteria in advance. Criteria [1] for selection might include:

- potential for success
- impact on more than one subgoal
- least cost
- maximum coverage

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[1] Regardless of stated priorities, the program or project mix which receives the most funding is the priority.

Along with the selection process goes the setting of project objectives. The project objectives should be quantifiable, i.e., able to be measured.

Once the project mix has been decided the project design is formulated. The formulation of project design involves the development of a paper plan which identifies the project outputs, the project activities, and the project inputs. At this point, phase one of the strategic planning process is completed.

ADAPTING THE PLAN FOR MANAGEMENT PURPOSES

Phase two is adapting the plan for management purposes. It is during this phase that the details of the plan are drafted and future management needs are anticipated.

ALLOCATION OF RESOURCES

Step 1 of this phase is the allocation of resources. Allocation of financial resources is accomplished through the budget. Depending on organizational needs, the budget will be in a traditional line-item format (salaries, rent, telephone) or in a program format (counseling, training, work experience). The level of detail included in the budget will be determined both by internal management needs and funding-source requirements.

Allocation of staff and time is accomplished through the work program. Based on the work program the manager can determine: critical dates; a list of achievable outputs; work flow; and staffing requirements. The work plan provides the manager with a graphic representation of what has to happen, by when, and the consequence of it not happening. Out of the work program comes the GANTT chart, the Level of Effort chart, and the PERT/CPM charts. Unless specifically required by the funding source, the work program is for internal management needs.

EVALUATION

Step 2 is planning for evaluation. It is at this point that indicators of success are developed for project and program objectives, for broad objectives, for goals and subgoals. Future management needs and decision points are anticipated. The identification of the kinds of information necessary--and the system(s) necessary to deliver that information--for management needs and for evaluation needs takes place in Step 2.

LOBBYING

Step 3 is lobbying for the plan. Lobbying is done to insure support for the project. This support may be financial or it may be protective. Lobbying may also take place when attempting to expand the scope/direction of organizational activities. Although appearing as the third step in the process, lobbying efforts need to begin at the very beginning. Lobbying may be of a political nature and be directed toward the city council, state assembly, or mayor/governor. Or lobbying may be specific activity to enlist support and cooperation from other departments and agencies.

SUBMISSION

Step 4 is the submission of the plan. The actual form of the submission will vary depending on whether the plan is to be implemented through local government or federal funds.

PREPARING FOR IMPLEMENTATION

Phase three, preparing for implementation of the plan, begins when funding has been approved. At this time staff is selected and/or assigned, contracts are negotiated, and support relationships established formally with outside departments and organizations.

OPERATION

Phase four is the actual operation of the plan. For the urban manager it includes: reviewing the management structure; providing technical assistance as needed; monitoring ongoing projects; and engaging in replanning. Replanning is the continuing process of modifying systems/activities based on evaluation information.

SUMMARY

These four phases--specification, adapting for management purposes, implementation, and operation--provide the urban manager with a process which can be utilized to cope with changing conditions and changing technology.

This approach has been given many names--strategic planning, long-range planning, executive planning, comprehensive planning, and occasionally policy planning--but, whatever the label, the process demonstrates an orderly progression moving from the problem to a solution.

Today, more than ever, the burden of accountability is on local decision makers. The effective use of urban management tools, such as the strategic planning process, contributes substantially to the quality of decisions. The effectiveness of local governments, like the effectiveness of the private sector, hinges on the quality of decision making.

MODULE 1.A

GOALS AND SUBGOALS

GOALS AND SUBGOALS

Since all planning requires intent and direction, we begin the process with goal development. This step defines the ends toward which efforts are directed. These ends, or goals, should express the general desired outcomes of the planning process. A goal is a broad direction statement showing general purpose of intent. It is general and long-range and is not concerned with a particular achievement within a specified period of time.

BROAD GOAL

PURPOSE

The broad goal is a single, brief statement which serves to guide and inform the entire planning process which will follow. It should be broad, idealistic, ongoing and apply to the highest level of the organization doing the planning. That is, if the plan is being developed for a municipality, the perspective would be that of the city's or town's future characteristics, or nature; for a school system, the nature of the district; for a department, the purpose of that department, as informed by it's mandates, and interpreted by the staff and superiors. It should apply to a time period of 10-15 years.

There are two major benefits derived from goal development. One from the process of deriving the goal statement, the other from the actual goal statement. The process of reaching consensus on a single broad goal (or mission) statement can provide new insights into the nature of the organization, the priorities, and the important values and beliefs which are shared (or not shared) by staff, politicians or community, depending upon who is involved in the planning process at this level. During the process, broadly defined problem areas will probably emerge, which should receive consideration in subsequent phases of the process. The process of discussing goals can build consensus, motivation and commitment on the part of staff and clients.

The other major benefit lies in the utility of the broad goal statement which finally emerges from the discussion process. It should be used to maintain the internal consistency of the plan as it emerges, and as a focal point for the entire planning process. Subsequent decisions (alternatives, projects, objectives) should all include the question, "What impact would this decision have upon the broad goal and subgoals?" It can also be used to strengthen the argument for recommending, and building support for, specific courses of action which may result from the planning process.

The broad goal is often a statement of philosophy, a concept which the entire organization is working towards (but may never wholly realize). The broad goal for a newly developing retirement community might be:

> "To provide a setting in which retired citizens may reside with dignity, maximum self-sufficiency and comfort, with opportunity provided for structured social and recreational activity."

The broad goal for a county Housing Opportunities Commission might be:

> "To insure a range of available housing to meet the needs of a wide segment of the state's population, regardless of race, marital status, socioeconomic status or religion."

Many approaches are available to structure the goal development process. Some questions which may assist process discussions include:

What is our community like now?

What should it be like?

What is the role of city government?

What should it be?

How could we describe the community 15 or 20 years from now if it were functioning ideally?

Whom do you want to attract?

How large do we want to be? Why?

SUBGOALS

Subgoals are similar in format to the goal statement, but deal with a more narrowly defined part of the whole. In theory, if all of the subgoals were achieved, the system would reach the broad goal. Subgoals may cover a more limited time frame (10 years) or may span the same time period, but deal with specific segments or functions which contribute to the whole enterprise. Subgoals may be developed for each major function within the organization or for each major organizational unit. They may also be developed for specific client groups or desired outcomes. They serve to further explain the broad goal and provide further structure for the skeleton of the planning process under construction. They should be consistent with the broad goal statement and consistent with each other.

PURPOSE

As with the broad goal, the subgoals serve to stimulate discussion, build consensus (or pinpoint disagreement) and to guide further plan development and evaluation. Subgoal statements begin to structure priorities (if it's improtant enough to be a subgoal, it is a priority and will require action and funding). They also provide an important link between talk and generality and specific data requirements. In adopting a subgoal statement, always keep in mind that the next step will be to gather and assess information concerning that statement.

An example of possible subgoals which may develop from the retirement community broad goal would be:

1. To maintain easy access to low-cost, comprehensive health care for all residents;

2. To provide a physical setting which promotes maximum mobility and convenience for all residents.

Remember: No planning process is complete if it stops with goal development. Goals are a beginning, the horizon toward which we will structure the actual plan.

STRATEGIC PLANNING

SUGGESTED READINGS

BOOKS

Anderson, Kristin (ed.). Planning: New Tools & Perspectives, New York, AMACOM, 1974.

________________. Planning Series, Part I, Harvard Business Review, Boston, 1964.

________________. Planning Series, Part II, Harvard Business Review, Boston, 1964.

________________. Planning Series, Part III, Harvard Business Review, Boston, 1964.

Hawley, W., and Rogers, D. (ed.). Improving Urban Management, Beverly Hills, Sage Publications, 1976.

Sakkal, George (ed.). Executive Planning Process Guidance Manual, State of Maryland, Baltimore, 1975.

PERIODICALS

Bolan, Richard S. "Emerging Views of Planning," AIP Journal, Vol. XXXIII, No. 4, July 1967.

Clutterbuck, D. "Do it Yourself Approach to 5 Year Planning," Industrial Management, (28:68-9) 1973.

King, W.R. and Cleland, D.I. "A New Method for Strategic Systems Planning," Business Horizons, August 1975.

Koontz, H. "Making Strategic Planning Work," Business Horizons, April 1976

Vancil, R.F. and Lorange, P. "Strategic Planning in Diversified Companies," Harvard Business Review, January 1975.

STRATEGIC PLANNING WORKSHOP I (30 minutes)

INSTRUCTIONS

FIRST: Read the case study and review attachments on the City of Rockville, Maryland.

SECOND: Working as a group, identify several goals for the City of Rockville. Remember, goals describe the direction the city hopes to take over the next 15 years.

THIRD: CONSIDER--What should Rockville be like in 15-20 years?
Who should live there?
What should be the role of the city government?
Who should it serve?
How could we describe Rockville 15-20 years from now if it were functioning ideally?

EXERCISE

15-Year Goals:

1. ______________________________

____

____

____

2. ______________________________

____

____

____

All groups present their selection and total group selects one goal for Rockville. The group could agree on a compromise goal.

STRATEGIC PLANNING WORKSHOP II (30 minutes)

INSTRUCTIONS

FIRST: Working as a group, identify four subgoals to carry out the 15-year goal selected by all the small groups. Remember that subgoals describe what the City of Rockville hopes to accomplish in the next 10 years.

SECOND: Check yourself by asking the following questions: If the subgoals are accomplished, will the goal be reached? How will you know if you accomplished the subgoals?

EXERCISE

10-Year Subgoals:

1. ______________________________
____

2. ______________________________
____

3. ______________________________
____

4. ______________________________
____

All groups present their subgoals and identify the area(s) of concern that the subgoals address. The total group then selects four subgoals for the City of Rockville.

ROCKVILLE, MARYLAND

CASE STUDY IN THE DYNAMICS OF CHANGE

Your first assignment as the new head of the Rockville Department of Comprehensive Planning (encompassing both physical and human resource planning) is to begin preparation of the 1970 Grand Scheme. Since this is your first contact with Rockville, you seek out persons who have knowledge of the history of Rockville and a sense of the social value system as well as an awareness of the political process. The first thing you learn is that almost all the top people in the Rockville city government have recently left their jobs for jobs with the Montgomery County government. The second thing you discover is that Rockville is a community--with specific boundaries, its own name, its own ideas and its own history.

# # #

Before 1953, the citizens of Rockville, a small-town county seat, assumed that nothing had changed. Residents continued behaving as they had 10-15 years before that; as if agriculture were the primary source of income; as if the only entertainment available were the Fourth of July picnic every year, and hanging around the all-night diner in nearby Silver Spring every Saturday night; and as if Rockville still had a stable population of 2,000 as it had in 1942. The Mayor and City Council held public office because they considered it their "civic duty" to do so--like serving on a jury or paying taxes. It was a time when residents said they lived in Rockville, rather than Montgomery County.

Rockville, like other localities such as Bowie, Maryland and Falls Church, Virginia, welcomed the newcomers who came streaming in after World War II. The physical proximity to Washington, DC, combined with rail transportation and an abundance of open land, made Rockville a natural target for the housing developers. Trusting the adequacy of Rockville's own water and sewer facility, the City Council continued indiscriminately dispensing building permits and allowing sewer hook-ups. Farmland outside of the city limits was annexed to obtain utilities and by 1950 the population tripled (to almost 7,000), as housing developments appeared on the previously outlying farmland.

Whereas other communities felt the economic pressure resultant from an increased school-age population, this was not the case in Rockville, since Montgomery County--not Rockville--was responsible for providing educational facilities. Police protection also was provided by the County. Fire stations in each state fire district were staffed with volunteers. However, Rockville suffered other growth pains--obsolete buildings, inadequate traffic circulation on streets not built to withstand the heavy traffic, and haphazard land use.

In the summer of 1953, the first physical signs of the dynamics of change appeared as the original water wells were no longer able to supply the increasing population. Rockville declared a water shortage and banned all non-essential use. Shortly thereafter, the State Health Department ordered all new construction halted because Rockville's pre-war sewage treatment plant had reached its capacity. The water crisis became the catalyst for change as concerned citizens demanded long-overdue reforms.

The mechanism for change turned out to be a newly-formed organization which intended to run "professional" public administrators for elected office. The next election for Mayor and City Council were swept by candidates representing this new, nonpartisan, reform group. (The nonpartisan label allowed participation by the large numbers of mid- and upper-level federal employees living in Rockville who would otherwise be prohibited by legislation [The Hatch Act] from actively participating in partisan politics.) Their concern for "professionalism" soon became evident.

Decisions about election strategy and the long-range direction Rockville should take were hammered out in carpools as these young professionals commuted to and from their federal government jobs in D.C. every day. An immediate result of this informal decision-making process was that formal City Council meetings went very smoothly and the reformist group found themselves holding office for the next 18 years.

During 1954, their first year in office, they initiated programs to expand the capacity of both the water and sewer systems. In this same year, the first Rockville City Manager was hired and charged with the responsibility of hiring the "best possible professional staff." Adopting a City Manager form of government was the new City Council's first step toward creating a professional environment. Concurrent with the development of a "professional" staff was the introduction of an employee "merit" system and new fiscal procedures. The professionl approach had its reward: Rockville was twice designated an "All American City" (1954 and 1961), and later won awards for its financial management system and urban-renewal planning. Passage of an open-housing ordinance and a human-rights law by the Rockville City Council resulted in an award from the National Association for the Advancement of Colored People (NAACP) for being in the vanguard of those supporting human rights.

Even as new zoning legislation was being prepared, the population of Rockville continued to increase. It was clear that the in-migration was not going to wait for the newly-named (1957) Planning Commission to provide an orderly process for growth. And, the once homogeneous, stable community began to show signs of stress. The new residents brought more cars, more traffic congestion, demands for a different housing mix, and increased demands for city services. But most of all, they brought with them an affinity for shopping at the new regional shopping centers rather than the Rockville Central Business District. The stores in the Central Business District could not compete with the variety of merchandise and the availability of parking in the new shopping centers. The dilemma of urban stress, a deteriorating Central Business District, and an explosive population were the major concerns facing the new Planning Commission.

It took three years for the newly appointed Planning Commission to present for citizen approval the 1960 Master Plan, the first formal plan ever adopted by the City of Rockville. By 1960 the population had tripled again, bringing the total number of inhabitants to 26,000. The 1960 Master Plan declared "...the long range Master Plan is intended to prevent urban sprawl...." And by the late 1960s, this goal had evolved from preventing urban sprawl to making Rockville "...the best possible residential community."

To achieve this ideal community, the Master Plan called for limiting the geographic size and the population of Rockville. All future planning would be done based on an ultimate population of 66,000 persons in 1980. And, based on an assumption that services can be provided more efficiently in a restricted geographic area, the decision was also made to restrict the geographic boundaries of Rockville to within 2.3 miles of the center of the city.

Deciding to restrict the *geographic* size was relatively easy compared with honoring this commitment with each successive request for annexation. On the other hand, limiting the *population* size was more difficult. To achieve the goal of limiting population, Rockville officials used such tools as: a revised zoning ordinance [1] which limited the height and size of buildings to be built on specific lot sizes; subdivision regulations which, by forcing advance review and approval of plans by the Planning Commission, insured the presence of adequate public facilities; and "pattern" zoning which kept like functions together.

By the mid-sixties, the rate of the population influx had slowed and the population was at 28,000 and increasing 2,000 each subsequent year. *The Montgomery County Sentinel* (a weekly paper which in 1855 considered itself a Rockville paper, but by 1960 provided more coverage to Montgomery County than to Rockville) declared in 1965 that "ROCKVILLE IS NOW BURSTING ITS SEAMS." In a lead story, it stated that:

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[1] Zoning ordinances can provide a viable means for restricting population, e.g., zoning can affect density by specifying lot size, the minimum value of the house to be built on each lot, restricting development to single rather than multiple units, designating large portions of open space, zoning large portions of land for current or future industrial or recreational use. Obviously, each alternative would have a different significant effect on the tax base.

> Rockville's growth has not been in population alone, but also in area. During 1964 twelve annexations amounting to 10.16 acres were effectuated. The City has been receptive to petitioners requesting annexation. Annexation makes available regular services to the area annexed while giving the city zoning control over the area...the dollar value of new construction amounted to $16.4 million which is up $3.4 million from 1963. This puts the construction rate at the highest in Rockville's history... the demands of an increasing population and all the other ramifications of rapid growth have had their effect on the internal organization of the work force. The Department of Public Works, which comprises about two-thirds of the total city employees was reorganized to better manage existing work loads....

In keeping with the philosophy that citizens should and would determine the kind and level of services to be provided by their local government, the staff of the Planning Commission established a process to ensure the occurance of community meetings. These community meetings provided residents with an opportunity to provide input prior to the culmination of the decision-making process.

As a result of input received at these meetings, Rockville's General Funds provided--in addition to water and sewer--such things as home refuse collection, a Human Relations Commission, a number of recreation centers, neighborhood parks, and a public swimming pool [2]. Additionally, plans were being developed for a community college and a community golf course [3].

To expand the city's fiscal capacity, Rockville officials took advantage of the availability of federal funds for human

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2. The public swimming pool was seen by at least one member of the City Council as a "social equalizer" among the different social and economic groups in Rockville.

3. The golf course idea was initiated in the late 1960s because certain officials felt that holding that much land (150 acres) zoned for single-family residences would cause problems, e.g., too much pressure for development, too much chance for zoning waivers, too much chance for zoning amendments.

services projects. Rockville applied for and received federal funds for such projects as: youth employment; various youth services, including a program to deal with juvenile delinquency; and a community health clinic. When federal support of these projects was no longer available, some previously supportive officials became opponents as it became evident that support would now have to come from the General Funds.

To revive the now nearly defunct Central Business District, the Rockville City Council and the Planning Commission submitted (in 1962) an application to the U.S. Department of Housing and Urban Development for an Urban Renewal Grant. The request for a $14 million grant called for extending the original limits of the Central Business District and creating an in-town regional mall [4]. This would would allow the downtown merchants to compete with the large shopping malls scattered around the Beltway. However, neither the Planning Commission nor the City Council anticipated the lengthy period of time it would take, conforming to HUD requirements, to acquire the 95 privately held parcels of land.

The contract for the Urban Renewal Design (which was to incorporate the concept that the Central Business District should be a commercial retail center, a local government center, and a professional and business office center) was awarded to a firm with only limited experience designing shopping malls. The economic study was done by Robert Gladstone and Associates who projected the success of the mall on "gravitational pull" [5]. However, Rockville officials were unsuccessful in their attempts to secure a commitment from any major department store. There were those who said that an in-town mall would not work, and that "...more advice should be sought in the economic and marketing sphere...that [Rockville] should select a firm with more experience in commercial development" [6]. Others, like the Mayor [7], felt it would be "more expedient to think smaller...like a pedestrian plaza" [8].

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4. A regional mall is one which serves several surrounding communities; it is typically located on the outskirts of town rather than in town.

5. "Gravitational pull" generally refers to a major department store that will attract shoppers to itself and other businesses in the shopping mall.

6. Conversation with C. Richard Foote, Rockville City Manager, 1960s.

7. Conversation with ex-Mayor Alex Green.

8. A pedestrian plaza in an area which is closed to motor vehicle traffic.

Because the members of the City Council were highly knowledgable federal officials, Rockville was the first city to apply for a water/sewer treatment grant when those funds first became available. It was not until after that grant was received that the granting agency established criteria for the awarding of such grants. Rockville also received a one million dollar Concentrated Code Enforcement Grant.

There were no State funds included in the Rockville budget. This may have resulted from the non-existent relationship [9] between the City of Rockville and the State of Maryland. One City Manager exclaimed that "...the highest state person we ever saw was the head of the highway department when we were trying to get the Route 95 spur from Baltimore to end in or near Rockville so we'd be tied in to the Baltimore market" [10].

While the late 1950s was a period of excitement and organizational reform, the 1960s was a period for implementing the reforms and for dealing with some of the newly emerging social problems. Some of the senior staff people had several years of experience in the Rockville government and they began to seek other opportunities to expand their horizons. It was natural that many of them gained employment with Montgomery County government which at that time was just beginning to to realize the need for an orderly growth process [11].

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9. During this period, the highest elected state officials were Republicans from Baltimore and/or the Eastern Shore. Spiro Agnew, a moderate Republican, bested Mahoney, the Democratic candidate whose slogan was "your home is your castle." This, coupled with Montgomery County's propensity to vote Democratic, meant that neither the informal nor the formal leaders had access to the State power structure.

10. Conversation with C. Richard Foote.

11. This left newly hired senior staff to cope with such emerging problems as: the need to minimize the potential adverse effects of METRO which was scheduled to have the end-of-the-line station and the inspection yard in central Rockville; the need to stabilize land values; continuing requests for annexation; and the need to preserve older neighborhoods.

ROCKVILLE, MARYLAND CHARACTERISTICS

Characteristic	1960	1969	Est. 1975
Total Population	26,090	42,739	50,000
Square Miles	7	11	11
Persons per Square Mile	3,727	3,885	4,545
Non-White Population (15.7% in 1950)	1,578 (6.0%)	2,817 (6.6%)	2,773 (5.5%)
Median Age	21.6	23.9	26.5
Under 18 Years of Age	46.9%	40.0%	NA
65+	744 (2.8%)	1,832 (4.8%)	2,432 (4.2%)
Family Size	4.09	3.61	3.55
In Same House as 1950	41.7%	40.0%	NA
Median School Years Completed	12.4	13.1	NA
Labor Force	NA	16,500	20,000
Employed in White Collar	57.1	60.9	NA
Families	5,935	19,834	NA
Families Below Poverty Level	NA	375 (1.9%)	NA
Median Family Income	$7,602	$14,252[1]	$21,000
Income of $10,000+	23.0%	80,9%	NA
Homes Were Owner Occupied	75.0%	6,733 (57.8%)	10,055 (70.0%)
Occupied Units	6,315	12,129	NA
Median Value Housing	NA	24,603	62,000

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[1] 33% of working population employed by federal government.

NEWS RELEASE

CITY OF ROCKVILLE

MARYLAND AT VINSON
ROCKVILLE, MARYLAND 20850

DAY AND DATE: Monday, August 9,

FOR RELEASE: Immediately

TITLE:

CONTACT: Sue Patterson PHONE: 424-8000 Ext. 216

OR PHONE:

A series of public meetings to develop plans for improvements in the Lincoln Park -Croydon Park neighborhoods will begin in September. Neighborhood residents, with the aid of city staff, will prepare recommendations advising the Mayor and City Council on how they wish to spend the funds. The funds are divided equally between public and home improvements. Public projects that residents can recommend include storm drains, street repairs, athletic fields and courts, and recreational projects. Residents also may sign up for home improvements loans and grants.

The boundaries of the Lincoln Park-Croydon Park target area are Ashley Avenue on the North, the Baltimore and Ohio Railroad tracks on the West, Baltimore Road on the South, and Horner's Lane on the East.

Meetings will be held Thursdays, at 7:30 p.m., September 9, 16, and 23, at the Lincoln Park Community Center, 357 Frederick Avenue.

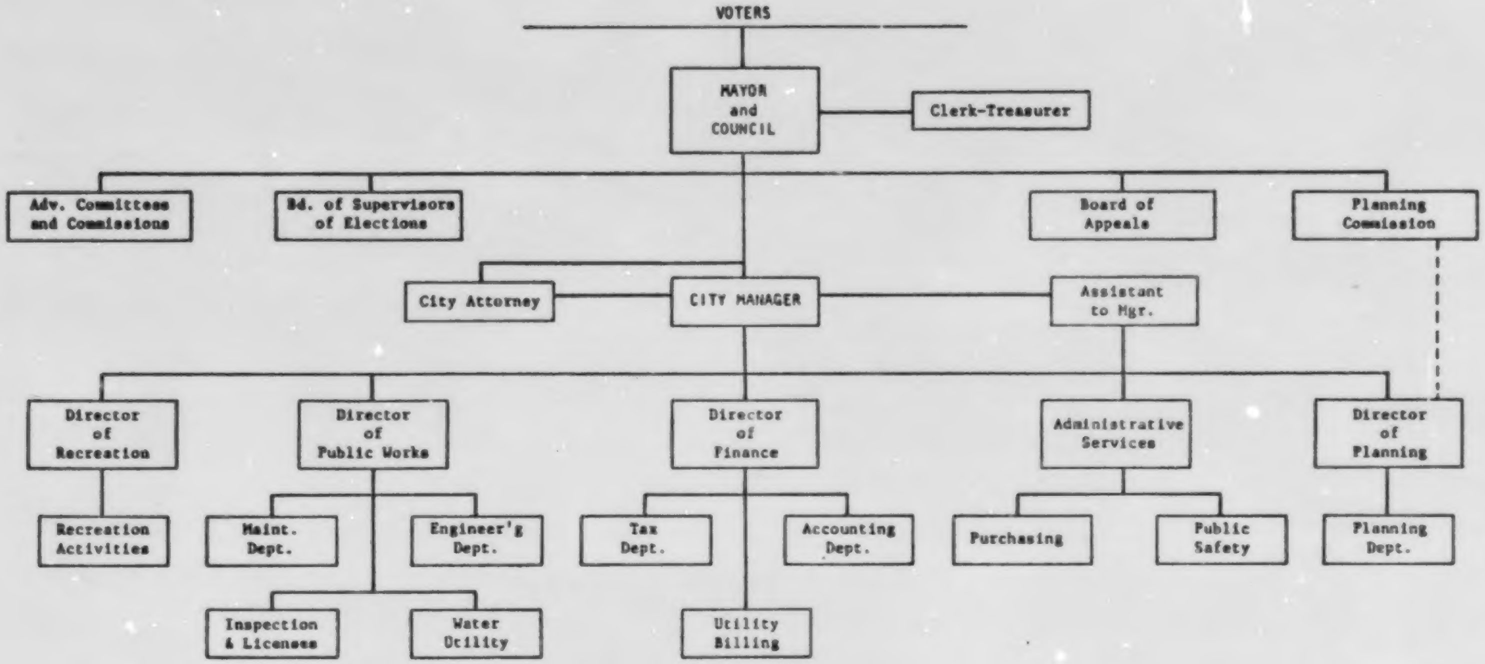
For further information, call Barry Schuttler, Project Manager, Community Development Block Grant, at 424-8000, ext. 243.

The City of Rockville will hold a public hearing on the proposed annexation of a 96.214 acre tract of land at 8:30 p.m. on Monday, August 9, in the Council Chambers at City Hall.

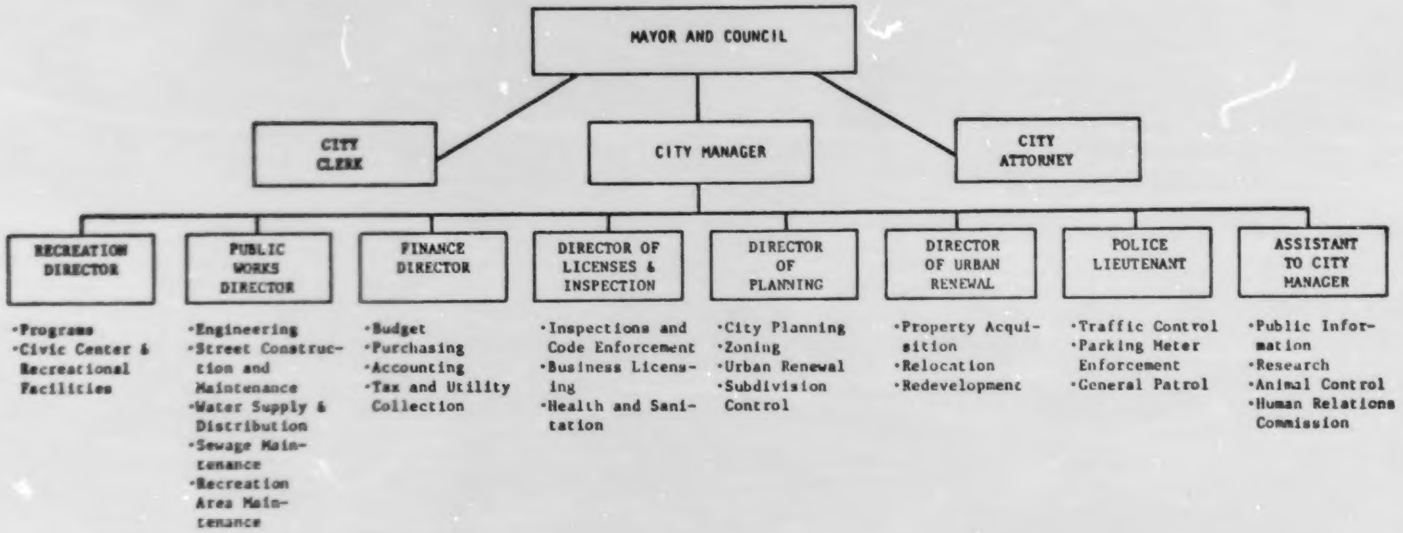
The tract, known as the Law B. Watkins Trust Property, is located on the north side of Montrose Road midway between I-270 and Rollins Avenue and adjoins existing corporate boundaries.

The land is presently owned by Mary Bradley Watkins and others. The area is proposed for single-family development at a density of three dwellings per acre. Churches and other institutional uses are also proposed for this area.

CITY OF ROCKVILLE ORGANIZATION CHART -- 1959


VOTERS
MAYOR and COUNCIL
Clerk-Treasurer
Adv. Committees and Commissions
Bd. of Supervisors of Elections
Board of Appeals
Planning Commission
City Attorney
CITY MANAGER
Assistant to Mgr.
Director of Recreation
Director of Public Works
Director of Finance
Administrative Services
Director of Planning
Recreation Activities
Maint. Dept.
Engineer'g Dept.
Tax Dept.
Accounting Dept.
Purchasing
Public Safety
Planning Dept.
Inspection & Licenses
Water Utility
Utility Billing

CITY OF ROCKVILLE ORGANIZATION CHART -- 1966


MAYOR AND COUNCIL
CITY CLERK
CITY MANAGER
CITY ATTORNEY
RECREATION DIRECTOR
PUBLIC WORKS DIRECTOR
FINANCE DIRECTOR
DIRECTOR OF LICENSES & INSPECTION
DIRECTOR OF PLANNING
DIRECTOR OF URBAN RENEWAL
POLICE LIEUTENANT
ASSISTANT TO CITY MANAGER
•Programs
•Civic Center & Recreational Facilities
•Engineering
•Street Construction and Maintenance
•Water Supply & Distribution
•Sewage Maintenance
•Recreation Area Maintenance
•Budget
•Purchasing
•Accounting
•Tax and Utility Collection
•Inspections and Code Enforcement
•Business Licensing
•Health and Sanitation
•City Planning
•Zoning
•Urban Renewal
•Subdivision Control
•Property Acquisition
•Relocation
•Redevelopment
•Traffic Control
•Parking Meter Enforcement
•General Patrol
•Public Information
•Research
•Animal Control
•Human Relations Commission

Rockville General Revenues
Fiscal Years 1960-1969 (000)

Fiscal Year Ended	Total	General Property Tax	Inter. Gov. Revenue	Licenses and Permits	Fines and Forfeits	Use of Money & Property	Charges for Services (other agencies)	Charges for Current Services
1960	937.2	486.2E	134.6E	45.7	5.3	21.5	205.4	38.5
1961	1,236.6	603.2E	199.9E	75.3	4.9	49.9	225.2	78.2
1962	1,300.2	665.5	240.3	90.4	4.5	43.4	49.7	206.3
1963	1,465.8	746.7	281.8	114.5	7.7	72.8	25.3	217.1
1964	1,714.8	862.2	332.4	144.8	11.7	79.0	43.3	241.4
1965	1,692.6	951.0	401.6	83.2	13.5	97.9	43.6	96.9
1966	1,885.0	1,054.3	463.0	85.2	18.3	114.7	57.5	92.1
1967	2,106.4	1,188.1	527.0	84.9	16.4	120.4	71.5	98.3
1968	2,571.6	1,359.0	723.4	97.4	17.9	132.9	126.2	114.8
1969	2,827.0	1,464.4	861.5	111.2	13.9	110.9	98.7	166.4

Rockville Expenditures for Selected Functions
Fiscal Years 1960-1969 (000)

Fiscal Year Ended	General Government	Community Services	Public Safety	Public Works	Recreation	Total
1960	130.5	16.2	109.4	353.6	79.5	689.2
1961	153.9	18.8	10 .7	459.2	99.1	835.7
1962	186.3	22.4	106.5	500.5	139.9	955.6
1963	192.0	24.0	112.4	522.3	165.3	1,016.0
1964	221.4	39.0	127.0	635.0	184.3	1,206.7
1965	223.1	51.8	141.6	650.9	207.1	1,274.5
1966	250.1	52.4	163.3	735.7	241.1	1,442.7
1967	275.3	62.3	178.9	839.7	271.1	1,627.3
1968	285.0	114.6	194.4	870.8	307.0	1,771.8
1969	355.7	117.4	245.8	1,054.5	383.2	2,156.6

Planned vs. Actual Revenues (thousands)

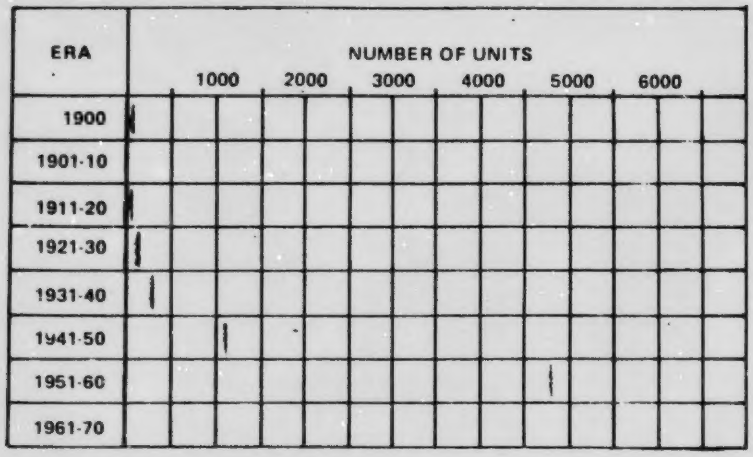
	Estimated Revenue	Actual Revenue	Actual Over (Under) Estimates	Increase Fiscal Year 1967-68
Property Taxes	$1,456.6	$1,464.4	$ 7.9	$105.4
Licenses and Permits	106.0	111.2	5.2	13.8
Fines and Forfeitures	17.5	13.9	(3.6)	(3.9)
Revenues from Use of Money and Property	128.0	110.9	(17.1)	(22.1)
Revenues from Other Agencies	920.1	960.2	40.1	110.6
Charges for Current Services	144.5	166.4	21.9	51.6
Total*	$2,772.6	$2,827.0	$54.4	$255.4

Planned vs. Actual Expenditures (thousands)

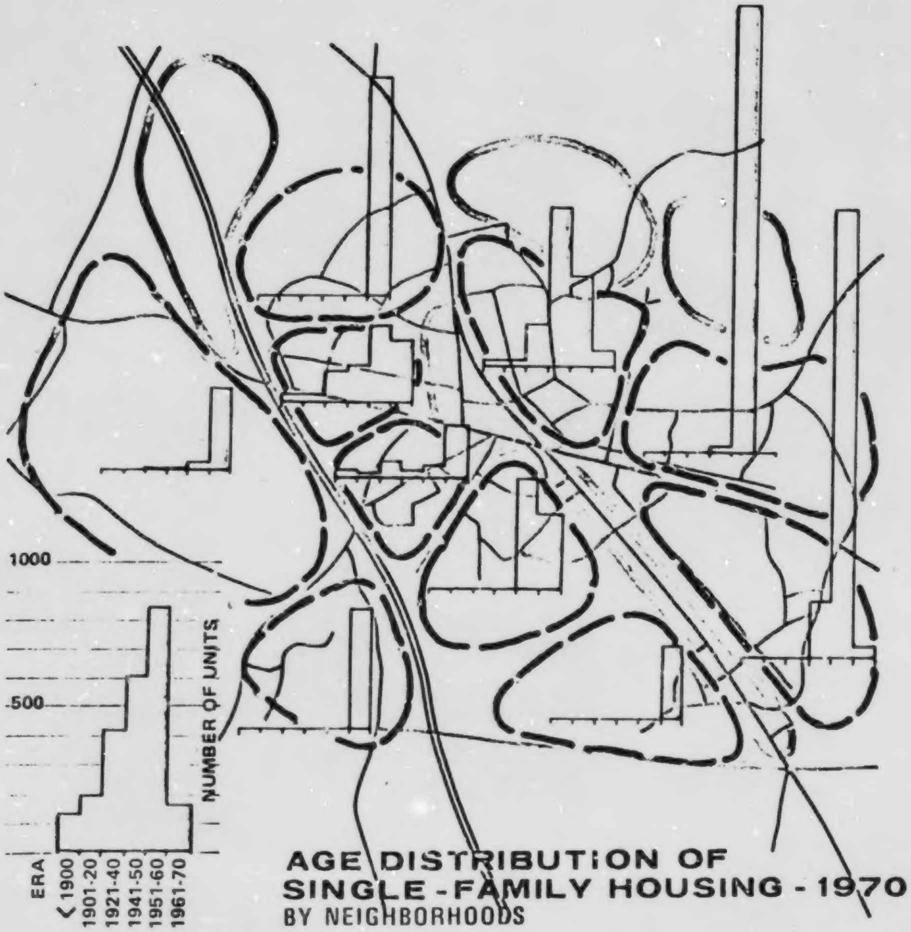
	Appropriations (After Revisions)	Expenditures (Adjusted for Encumbrances) Outstanding 7/1/69	% of Total	Unencumbered Balance	Increase Over 1967-68
General Government	$ 368.5	$ 358.0	12.44	$10.5	$ 74.6
Community Service	124.1	116.4	4.05	7.7	.3
Public Safety	248.6	247.3	8.59	1.3	52.7
Public Works	1,084.0	1,058.8	36.8	25.2	188.2
Recreation	383.8	383.6	13.33	.2	79.5
Debt Service	582.3	582.3	20.24	.0	57.5
Non-Departmental	178.0	131.0	4.55	47.0	(17.8)
Total*	$2,969.4	$2,877.4	100.00	$92.0	$435.0

*Due to rounding, columns may not sum to Total.

AGE OF HOUSING STOCK
ROCKVILLE, M.E.L., 1970



NOTE: Includes All Housing Unit Types.


1000
500
NUMBER OF UNITS
ERA
<1900
1901-20
1921-40
1941-50
1951-60
1961-70

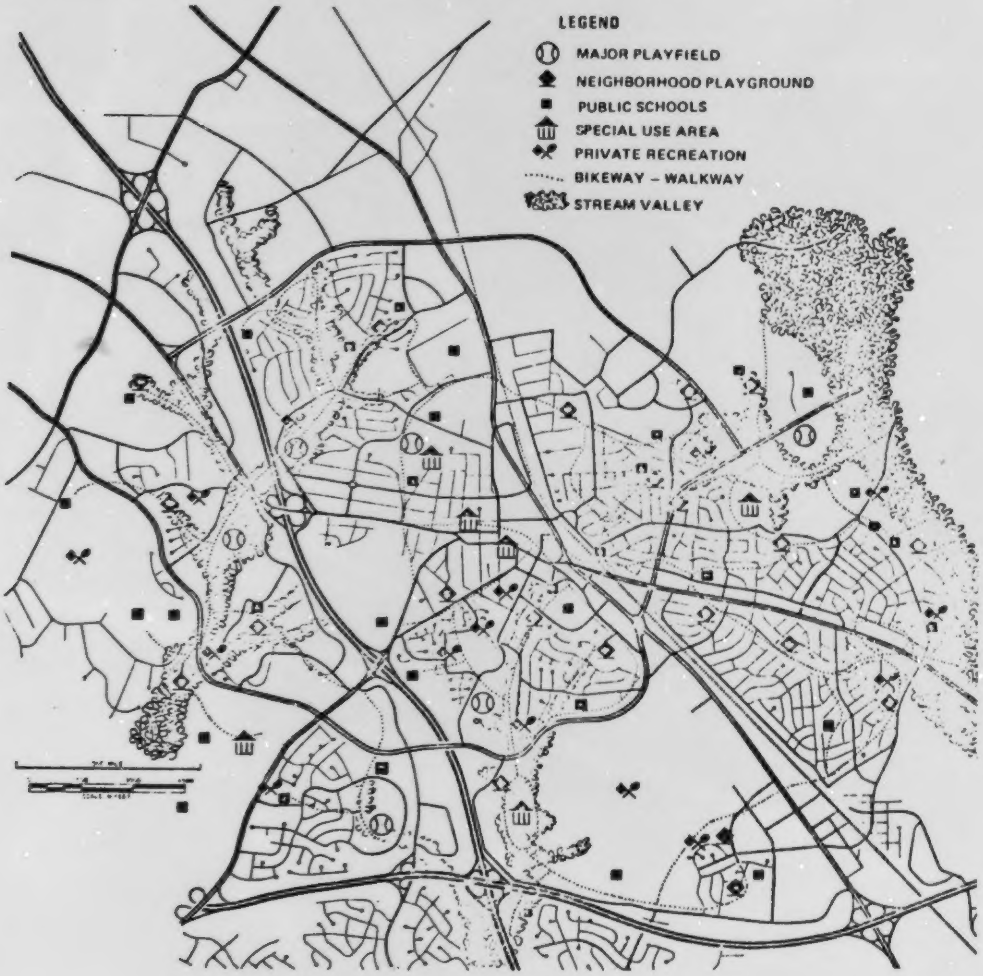
AGE DISTRIBUTION OF SINGLE-FAMILY HOUSING - 1970
BY NEIGHBORHOODS

PROJECTED REAL PROPERTY ASSESSABLE BASE – 1980 (All in 1970 Dollars)

	# UNITS	AVERAGE MARKET VALUE	TOTAL MARKET VALUE (000)	ASSESSED VALUE AT 55%	
RESIDENTIAL					
Single-Family Detached	11,497	$42,200*	$485,173	$266,845	
Single-Family Attached	1,417	25,200*	35,708	19,639	
Garden Apartments	2,681	18,900*	50,671	27,869	
Elevator Apartments	1,013	24,900*	25,224	13,873	
TOTAL RESIDENTIAL	16,608		$596,776	$328,226	$328,266
COMMERCIAL					
Office:					
Improvements	1,215,000 sq. ft.	$ 18.00	$ 21,870	$ 12,028	
Land	56 acres	190,000.00	10,640	5,852	
Retail:					
Improvements	1,761,000 sq. ft.	$ 12.00	$ 21,132	$ 11,622	
Land	152 acres	190,000.00	28,880	15,884	
Services, Automotive, etc.:					
Improvements	1,230,000 sq. ft.	$ 15.00	$ 18,450	$ 10,147	
Land	151 acres	170,000.00	25,670	14,119	
			$126,642	$ 69,652	
Estimated Annual Increase in Real Value of 3.0% =				x 1.35	
TOTAL COMMERCIAL					$ 94,030
INDUSTRIAL					
General:					
Improvements	2,308,000 sq. ft.	$ 8.00	$ 18,464	$ 10,155	
Land	406 acres	75,000.00	30,450	16,748	
Restricted:					
Improvements	4,000,000 sq. ft.	$ 17.00	$ 68,000	$ 37,400	
Land	400 acres	60,000.00	24,000	13,200	
			$140,914	$ 77,503	
Estimated Annual Increase in Real Value of 3.0% =				x 1.35	
TOTAL INDUSTRIAL					$104,629
TOTAL REAL PROPERTY ASSESSED BASE					$526,885

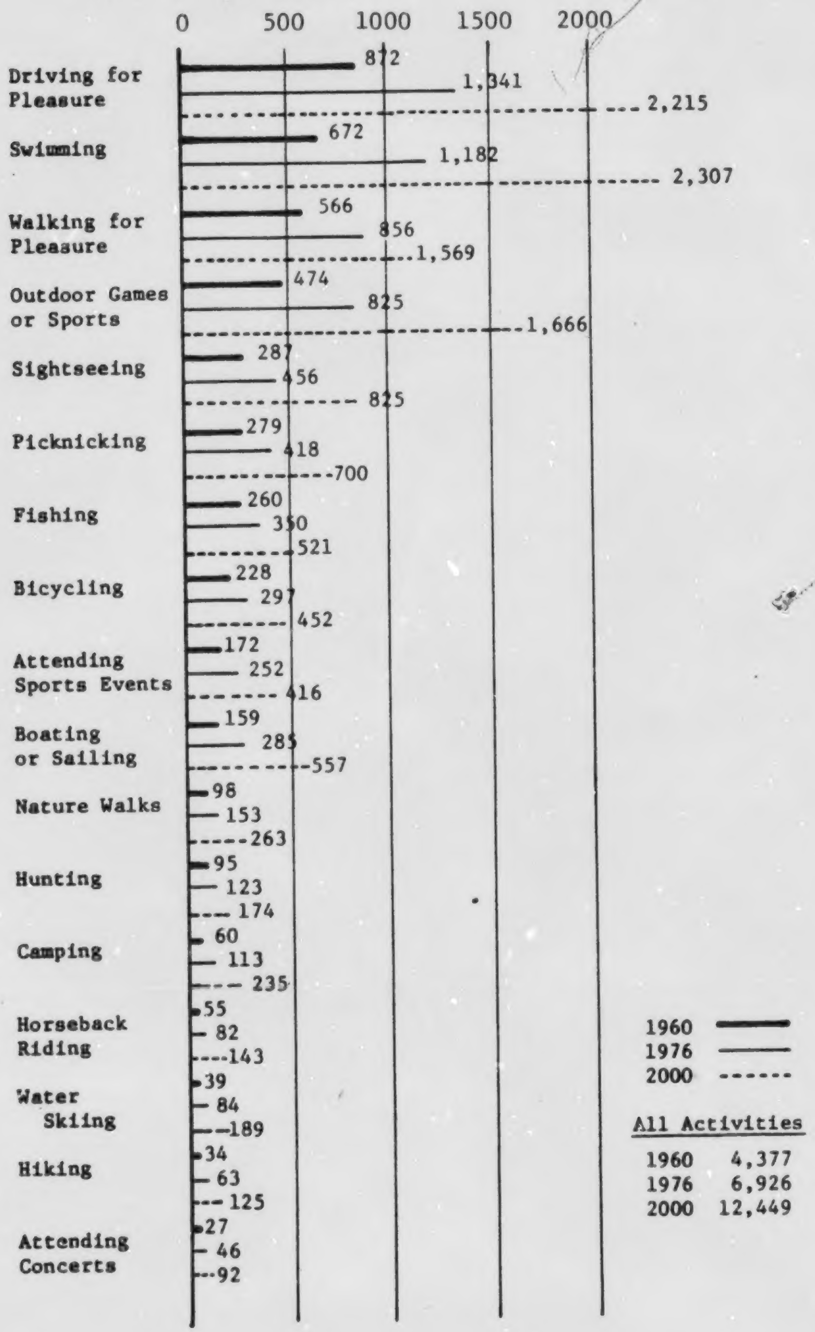
*Includes estimated annual increase in real value of 3.0%.

PARK and RECREATION FACILITIES


LEGEND
MAJOR PLAYFIELD
NEIGHBORHOOD PLAYGROUND
PUBLIC SCHOOLS
SPECIAL USE AREA
PRIVATE RECREATION
BIKEWAY – WALKWAY
STREAM VALLEY

NUMBER OF OCCASIONS OF PARTICIPATION
IN OUTDOOR SUMMER RECREATION

1960 Compared with 1976 and 2000 (in millions)



Rockville obtains its water supply from the Potomac River. The City's system includes a treatment plant near the river, a seven-mile transmission line, five storage tanks and some 109 miles of local water lines to serve individual homes, business and industries.

The current capacities of the components in the system are:

Treatment Plant	8 Million Gallons Per Day
Transmission Line	10 Million Gallons Per Day
Storage Tanks	13.4 Million Gallons

In 1969 an average of 3.6 million gallons per day was consumed from Rockville's water system. About 86% of Rockville's present population and 88% of the projected population will be served by the City water system. The remaining population is served by the Washington Suburban Sanitary system.

FUTURE WATER NEEDS

The City must have enough water to serve the homes, businesses and industries in its service area plus adequate flow from hydrants for fire fighting.

If all of the land in the City is used as recommended in this Plan, the average daily flow needed will be about 7.75 million gallons a day. This is based on the consumption and land use factors described earlier in this chapter.

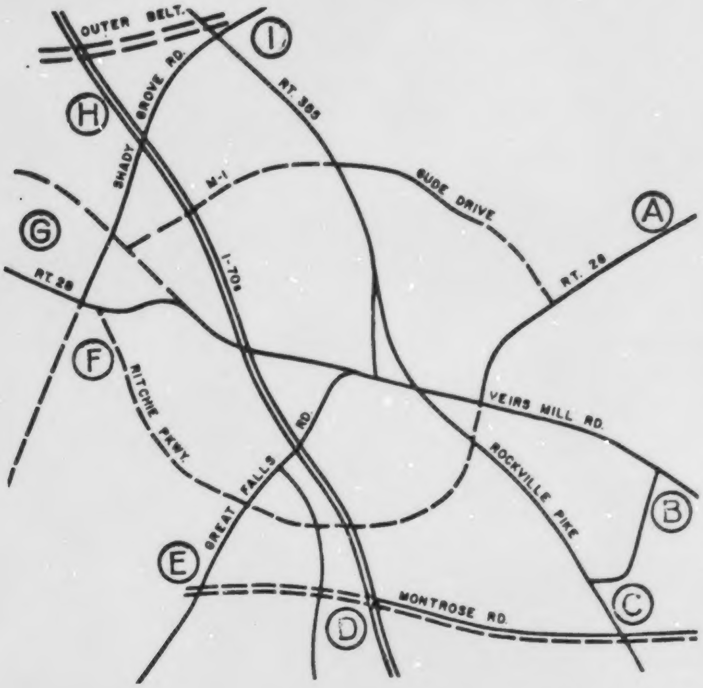
The need for improving each part of the system to provide for the anticipated growth under this Plan is demonstrated:

WATER SYSTEM REQUIREMENTS

Facility	Present Capacity	Future Requirement	Additional Capacity
Treatment Plant	8.0 MGD	11.63 MGD	3.63 MGD
Transmission Line	10.0 MGD	11.63 MGD	1.63 MGD
Storage	13.4 MG	22.1 MG	8.7 MG

CONCLUSIONS

The City will need to expand the capacity of the treatment plant and storage facilities to meet the water consumption requirements of future growth. Storage facilities should total 22.1 million gallons. Treatment plant expansion may reach as much as 12 million gallons total, depending on the resolution of transmission line capacity. The present 10 million gallon per day capacity of the transmission line will not meet future demands.

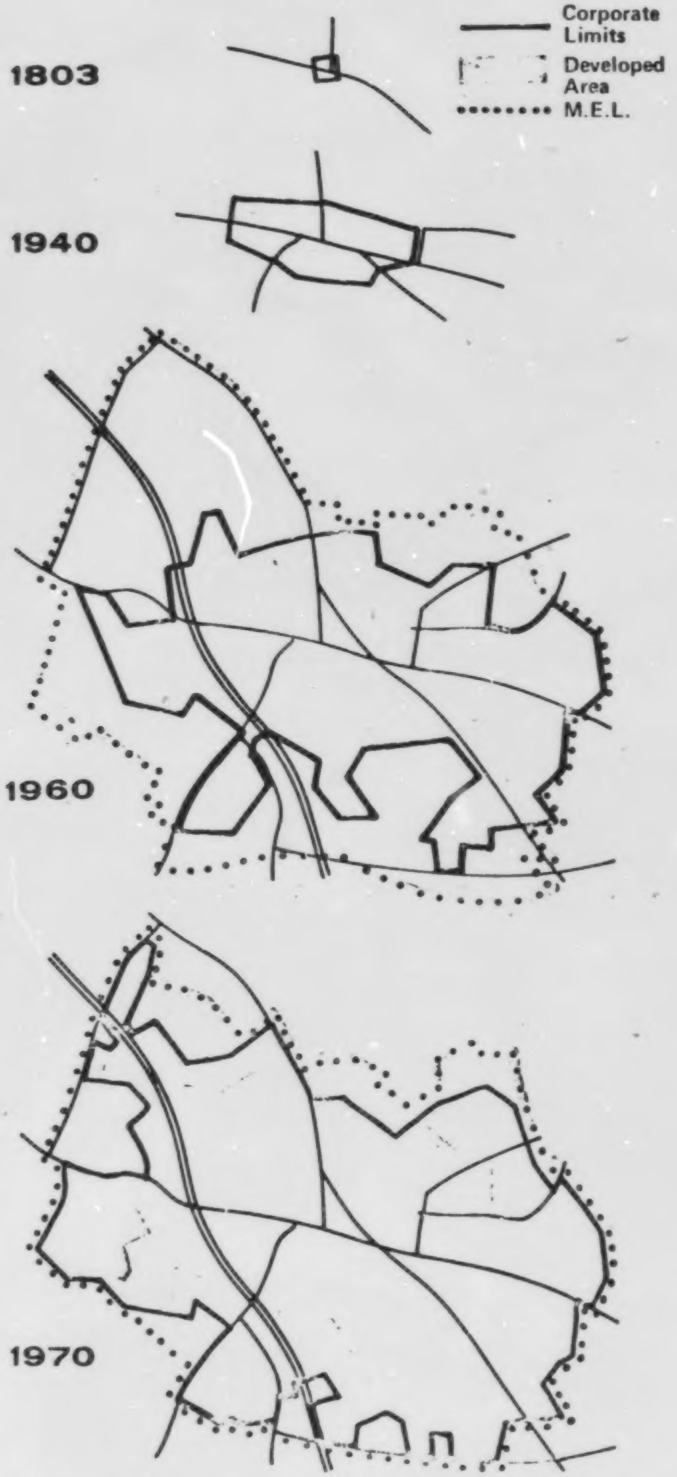

OUTER BELT
I
RT 355
H
SHADY GROVE RD.
M-1
GUDE DRIVE
A
G
RT 28
I-70s
RT. 28
F
RITCHIE PKWY
RD.
VEIRS MILL RD.
ROCKVILLE PIKE
GREAT FALLS
B
E
MONTROSE RD.
C
D

AVERAGE DAILY TRAFFIC

Entering And Exiting City, Existing And Projected 1960 To 1990

	1960	1970	1990
A	3,275	7,500	6,600
B	20,575	27,400	26,300
C	24,875	37,100	32,900
D	9,350	55,600	89,100
E	2,450	6,000	23,200
F	–	–	20,700
G	3,125	9,500	17,700
H	9,400	40,000	101,300
I	8,650	16,900	31,600
Total Trips	81,700	200,000	349,400*
Population	26,000	46,000	66,000

*This does not include projected volumes on the proposed outer belt: 55,100 east of Route 355 and 21,300 west of Interstate 70-S.


Corporate Limits
Developed Area
M.E.L.
1803
1940
1960
1970

Rockville is part of, and influenced by, the surrounding urban regions. On the large scale, it is on the southwestern edge of the rapidly urbanizing Eastern Megalopolis extending from Portland, Maine to Richmond, Virginia.

More pertinent is its position in the Washington Metropolitan Region, in Montgomery County and in the Interstate Highway 70-S Corridor.

ROCKVILLE AND THE WASHINGTON AREA

Rockville is tied to Washington, D. C. historically, geographically, economically and socially. Today the Washington Metropolitan Region is one of the fastest growing major metropolitan areas in the nation.

- Its population is well educated, and has one of the highest per capita incomes of any metropolitan region.
- In new housing construction, the Washington Metropolitan Area is second only to Los Angeles.
- There are more than 1.27 million jobs in the metropolitan area, 340,000 of them in the Federal government.

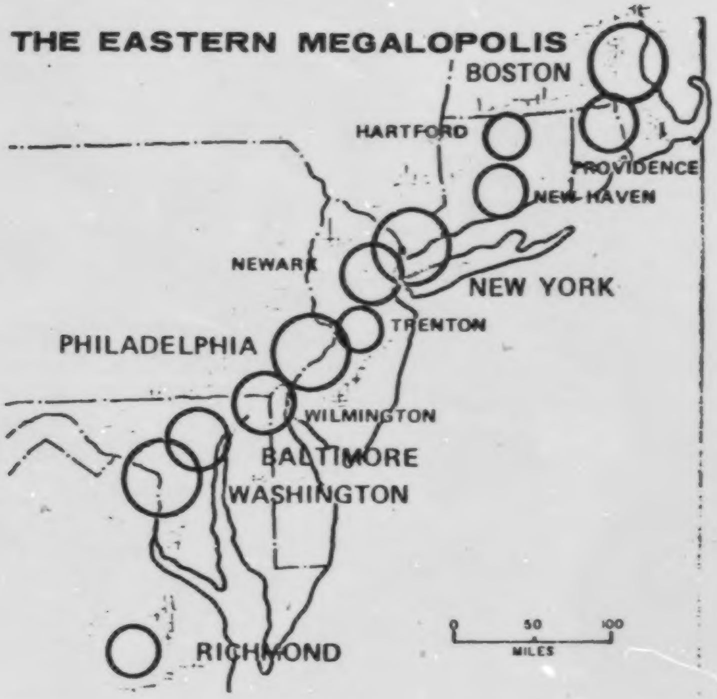
POPULATION

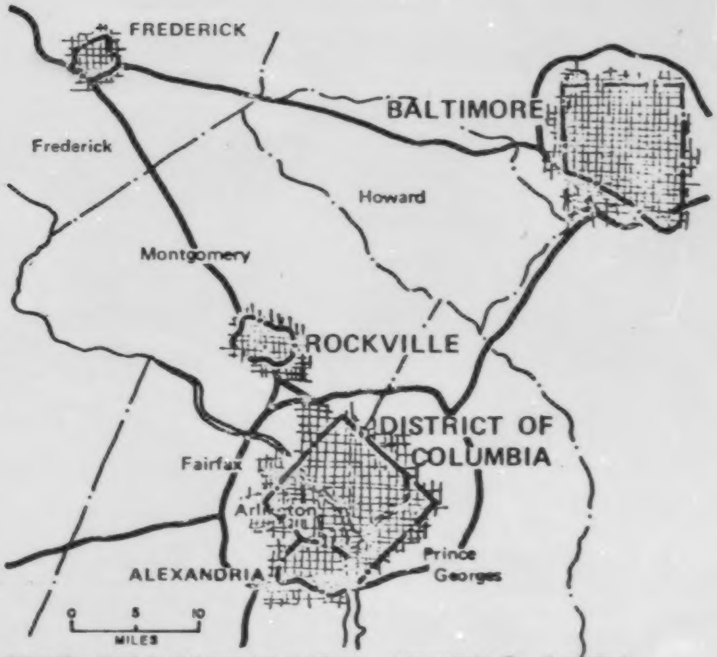
	1970 Estimates	Growth Rate Since 1950
Metropolitan Region	3.02 million	107%
Montgomery County	506,000	209%
70-S Corridor	103,000	472%
Rockville	45,000	543%

EMPLOYMENT

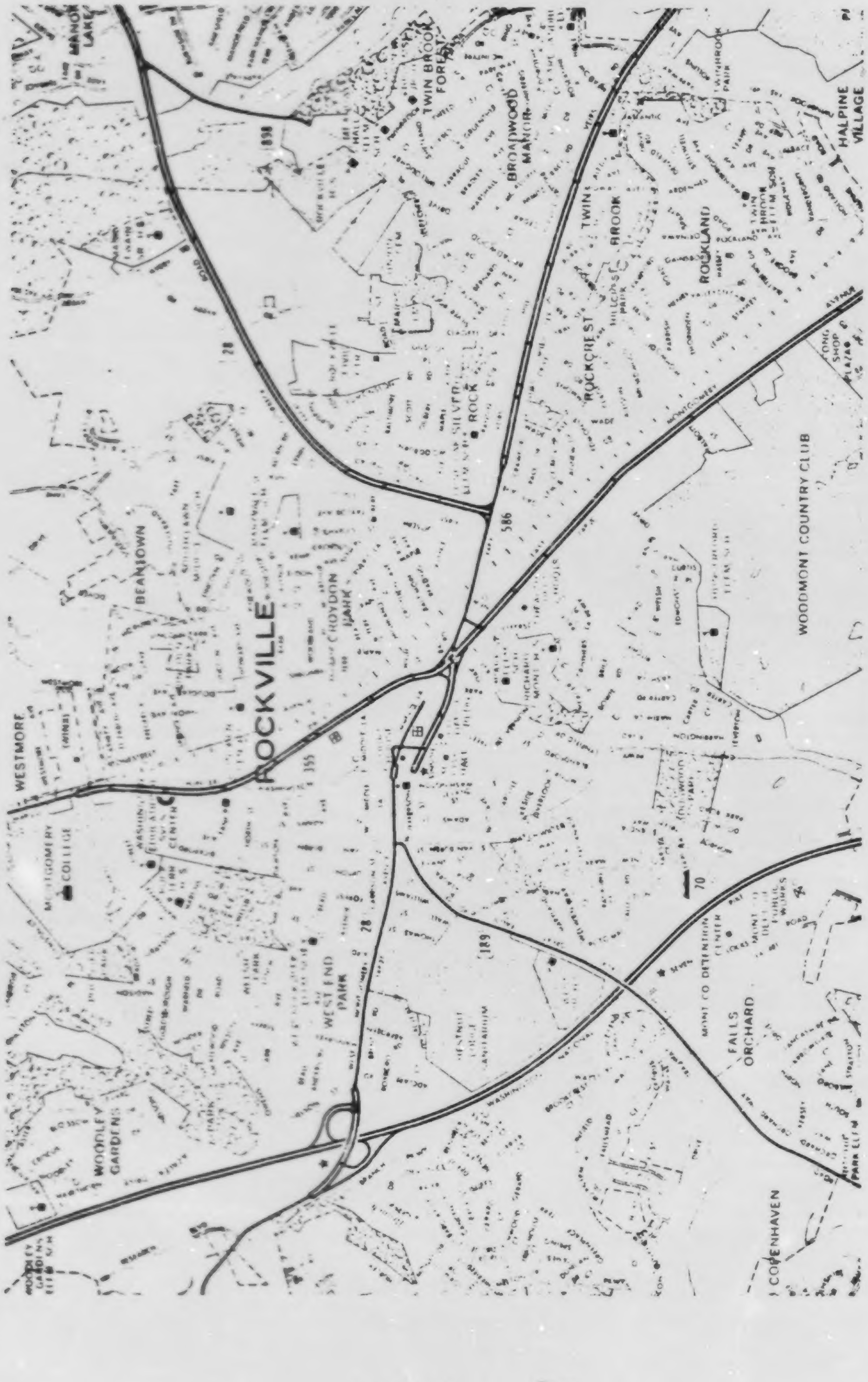
	1970 Estimates	Growth Rate Since 1960
Region	1.27 million	76%
County	176,000	102%
Corridor	32,000	116%
Rockville	17,000	158%

THE EASTERN MEGALOPOLIS


BOSTON
HARTFORD
PROVIDENCE
NEW HAVEN
NEWARK
NEW YORK
TRENTON
PHILADELPHIA
WILMINGTON
BALTIMORE
WASHINGTON
RICHMOND
0
50
100
MILES


FREDERICK
BALTIMORE
Frederick
Howard
Montgomery
ROCKVILLE
DISTRICT OF COLUMBIA
Fairfax
Arlington
ALEXANDRIA
Prince Georges
0
5
10
MILES

THE WASHINGTON METRO AREA


MANOR LAKE
TWIN BROOK FOREST
BROADWOOD MANOR
HALPINE VILLAGE
TWINBROOK
ROCKLAND
ROCKCREST
SILVER ROCK
28
586
WOODMONT COUNTRY CLUB
BEANTOWN
CROYDON PARK
ROCKVILLE
WESTMORE
355
MONTGOMERY COLLEGE
70
189
WEST END PARK
FALLS ORCHARD
WOODLEY GARDENS
COPENHAVEN

MODULE 2

SITUATION ANALYSIS

Objectives: The objectives of this module are to: use predetermined goals to focus on problem areas; demonstrate an ability to distinguish problem causes from problem symptoms; demonstrate an ability to apply an elementary rate of change forecasting model.

SITUATION ANALYSIS

Situation analysis is a very important part of the strategic planning process because everything that follows is based upon the conclusions drawn and the recommendations made at the completion of the analysis. Thus it is critical to assess the situation, define the problems, and distinguish between symptoms and causes with the highest possible level of precision.

During this early phase of the planning process, the manager tries to answer the question, "Where are we now with respect to where we want to go?" The key to this step is identifying the gap between what is, what will be, and what should be. In some planning models this is known as the needs assessment phase.

We can break this phase of the process into the following components:

(1) Problem identification

(2) Data needs considered

(3) Data collection

(4) Data analysis

(5) Drawing conclusions

Remember, these steps are an idealized version of a process which will not (and cannot) always take place in perfect sequential order. Data analyzed for one problem may identify another problem and start the whole process over.

PROBLEM IDENTIFICATION

Problems don't exist in isolation--they depend upon context or situation. Something is, or is not, a problem relative to a desired outcome or condition. In other words, a problem is something that blocks or hinders reaching your goals. For example, you will not be concerned with the probability of typhoons in the Pacific during the Fall season if you plan to vacation in the Carribean.

Therefore, when scanning the situation for problems, it is a good idea to begin with the goals and subgoals that have already been developed. This serves to narrow down the field from all the possible areas of consideration you could start with. Then, one asks, "Where do we stand now with respect to this goal area? How do we get there?"

PROBLEM PERCEPTIONS

There are many places one might begin the task of problem identification. One of the most useful is to examine the various perceptions of the situation. At its most rigorous, this step requires a formal survey (instrument design, sample selection, analysis) of a concerned or knowledgeable population--staff, superiors, clients, outside experts. The underlying assumption for this approach is that perceived problems are, in fact, indicators of real problems and that the perceptions point to areas which will require further analysis and specification. The relevant facts, values and policies relating to an expressed concern become the basis for validating the concern as a problem.

FORMAL SURVEY

If a formal survey is to be employed, the usual approach is a form of scaling. A wide variety of potential concerns or problem areas or issues should be brainstormed [1] and selected. The most simple instrument uses a scale of 1 to 5 to rate achievement from "good" to "poor." It is also possible to rate issues, functions, goals or activities on more complex scales, i.e., 15 to 1 in five categories ranging from "receiving too much emphasis" to "receiving not nearly enough emphasis." The same items can then be ranked on a 1 to 15 scale to indicate the desired future condition for each item. These categories range from "substantially decrease emphasis" to "substantially increase emphasis." A similar scaling device could compare perceived importance with perceived performance.

WORKSHOP

Meetings can also be utilized to identify perceptions. The partcipants work in small groups, and respond to the question, "What are the things that are keeping us from doing the job we should do for our clients?" Only problems--not solutions--should be listed. After about thirty minutes, groups exchange papers with each other for comments and priority ratings of each response according to the following 5-point scale:

---

1. The unrestricted offering of ideas or suggestions by all members of a conference to seek solutions to problems.

1	2	3	4	5
utmost importance	very important	moderately important	little importance	unimportant

Then they receive their original work back, revise it, and write each response on an index card with the priority ratings of all the groups.

These problem- or concern-perception techniques can yield valuable information, but they should be used only as guides to gather facts and data. Perceptions do not always correspond to reality. For example, garden apartments may be perceived as costly to a community in terms of tax revenue when compared with single family dwellings. The data may indicate that, in fact, the apartments "subsidize" the school system where costs are high due to an average of 3.5 public school children per single family unit as compared to .5 per apartment. There is still a problem here, but it is one of communications or public information, not tax equity. This would require a different strategy.

ISSUES

Another type of problem is an issue. An issue is something about which there are two points of view. Issues are value-oriented situations. Unlike other types of problems which can be documented by specific data such as the number of children in a classroom or percent of wage earners out of work, issues cannot be documented with hard data. However, the existence of an issue may be discovered through workshops, information discussions or formal surveys. Issues result from the differing perceptions of a particular situation. Frequently each of the persons involved may be impacted upon differently by the same event or situation. An example of an issue:

- Children tell their parents or guardians that lot's of children are getting hit by cars down by the school.
- The school principal is concerned that some child might possibly be struck by a speeding car.
- Commuting motorists are irritated that they have to slow down in a school zone that is 1 mile long.
- The regular school crossing guard has been on extended sick leave.

Clearly, there is a problem, but not the kind that can be documented or solved with the collection and analysis of hard data. If the city council placates the principal by putting in a traffic light, then the commuters will be upset at having to wait for the light to turn green. They will be very upset at having to wait if there are no children crossing the street.

Solving an issue first requires identifying the existence of an issue. The next step involves identifying the nature of the issue, e.g., it should be resolvable. It should be important to the decision maker's constituency (e.g., community groups, Board of Trade, realtors, tow-truck operators). It should contain negotiable items. It should require your organization's intervention for a favorable resolution.

The third step involves identifying the key actors, their positions, what they are likely to gain or lose, their relationship to each other, and their willingness to negotiate.

The fourth step involves determining the level of involvement (time, staff, commitment, public exposure) which is appropriate for your organization. The level of involvement considered appropriate is likely to vary from situation to situation.

The fifth step involves recommending a solution. Before recommending a solution it may be appropriate to identify all possible solutions and to assess each possible solution against predetermined criteria.

PROBLEM INDICATORS

An indicator is a quantified measure of a given condition at a specific point in time. It should provide an indication of where you are, at a given point in time.

Indicators are a tool which can assist in structuring data needs, assessing the situation and identifying problems. Indicators may be applied appropriately during many points in the planning process but are especially appropriate between goals and forecasting.

Although they are quantified, indicators are not necessarily exact nor are they necessarily direct--they often will not correlate exactly with the goal area. They will often be indirect, but should have sufficient relationship to indicate to decision makers what is going on in the problem, goal or issue area.

For example, indicators of a downward turn in the local economy are such things as mortgage foreclosures, increases in cases of child abuse and an increase in the number of applications for food stamps. Conversely, if new construction permits are being issued in large numbers, if the local banks hold a larger than average number of construction notes, and if large numbers of persons are seeking immediate housing, then several problems are possible. Large numbers of unemployed persons may trigger not only a rise in the crime rate but a drain on available community health services. Large numbers of construction notes may affect a bank's interest policy and personal loan policy--especially if these notes are in default.

After you have developed your general goal and subgoal statements, it is a good idea to examine each through brainstorming and discuss a variety of potential indicators which might provide information relating to what's going on in that area. Consider each suggested indicator with respect to: availability of data; estimated accuracy of data; relationship to goal or problem area.

DATA NEEDS CONSIDERATION

Data are essential for situation analysis--for problem analysis documentation, distinguishing between symptoms and causes and for decision making.

One of the main problems facing managers is "How much data is enough?" You need sufficient data, precise enough to make good decisions, but it must be available on time and in a form that can be understood. Too much information can result in overload, the manager doesn't know which are the really important facts (or can't dig them out in time) so none of it gets used.

Before actually gathering any data, it is essential to do some preliminary planning. The data will be used to derive decisions, therefore begin by considering the decisions to be made. Consider the following points before investing time and resources in data collection:

(1) What decisions will we have to make in this area?
Who will make them?
(2) What are the major factors influencing the decisions?
(3) What criteria will be used to make the decision?
(4) How precise must the information be to be usable?
(5) How difficult will it be to gather the information?
How costly?
(6) How soon must the data be available?
(7) What form will the final product take?

In many cases, urban mangers are dealing with tight deadlines and don't have the luxury of being able to collect and consider all the information they think is necessary to define a given situation. It is often better, however, to be approximately on time than precisely too late.

DATA COLLECTION

Once the data needs have been identified the next step is data collection. There are three primary sources of information written sources; human sources; and observation. The choice of source and the approaches to gathering data will vary according to the information needed, the resources available and the constraints to obtaining the information. The sources and approaches described are not all-inclusive but are intended to show the range of options.

Written sources include the general subject literature, public records, public agency records, project/activity logs and your own department/agency files. The most common approach to written sources is by means of reviewing card catalogues/bibliographies and visiting agencies.

An example of a data resource guide for Maryland (published by their Department of State Planning) is excerpted on the following two pages. Similar resource guides are available in most states.

Human sources of information include people who are knowledgeable because of their education, experience and/or professional involvement. Soliciting responses from several experts is sometimes called the Delphi Method [2]. People who will be affected as clients and/or those who will influence the decision of potential clients are also sources of data. Approaches to gathering data from people include informal interviews; formal interviews; questionnaire interviews; or,special approaches such as market testing.

Observation is a basic method of gaining information. Anything that happens and is observed, or anything that happened and left traces that can be observed can be a source. Such happenings of interest might include: minutes of a citizen advisory group meeting; the behavior of project participants; and telephone queries. Even though these represent a random and haphazard approach to data collection, it is precisely this approach that

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2. The Delphi Method has its precedent in the Oracle of Delphi and refers to the gathering of opinions of experts concerning a particular logic area and basing the decision on that information.

"A procedure for systematically soliciting and collating the opinions of experts on the future of a preselected subject through individual interrogations, usually by questionnaires. An attempt is made to achieve consensus of convergency of opinion by the feedback of results to the participants and recycling the process." Comprehensive Planning in Education, Bureau of Planning, Department of Education, Trenton, New Jersey, 1974.

DATA RESOURCES: EXAMPLE

The following list indicates current data and related publications which may be of assistance in preparing the plan.

1. Department of State Planning. Publications.

   A. Maryland Population 1930-1970. August 1971.

   B. Maryland Population and Housing Statistics: 1970 Census. August 1971.

   C. Maryland Family Income Characteristics: 1970 Census. April 1972.

   D. Maryland Housing Element Volumes I through VII, October 1972.

   E. Selected Physical, Financial and Occupancy Characteristics of Housing and Households 1960 and 1970 (seven volumes). October 1972.

   F. Public School Enrollment Projections 1972-1984, July 1975.

   G. Maryland 1970 Social Indicator Series,

      Volume I - Educational Characteristics, No. 200, November 1973
      Volume II - Age and Mobility Characteristics, No. 201, Dec. 1973
      Volume III - Income Characteristics, No. 202, April 1974
      Volume IV - Labor Force and Employment Characteristics, No. 203, May 1974

   H. Maryland Projection Series, Population and Employment 1975-1990, No. 240, May 1975.

   I. Maryland Automated Geographic Information (MAGI) System. Publication No. 207. Baltimore. March 1974.

      Natural Soil Groups of Maryland. Publication No. 199. Baltimore. December 1973.

   J. Compendium of Natural Features in Maryland. Publication No. 227. Baltimore.

   K. Maryland Outdoor Recreation and Open Space Plan. November 1972.

   L. Multi-Service Center Study: assembled Data and Progress reports. 1973-75.

   M. Social Indicator Report: A Conceptual Approach. April 1976, covers the areas of health, education, public safety, housing, economic well-being, and social potential.

Department of Human Resources:

1. Social Services Administration: Monthly Statistical Report.
2. Department of Human Resources Annual Report.
3. Monthly Work Force Estimates.
4. Maryland Manpower Trends (Monthly).
5. Labor Force, Employment, and Unemployment. (Annual)
6. Title XX Program Service Plan, Annual.

Department of Economic and Community Development

1. Community Economic Inventory Series (by County).
2. An Economic and Social Atlas of Maryland (contains an excellent bibliography of sources). February 1974.
3. Maryland Economic Indicators (Monthly).
4. Statistical Abstract of Maryland (Biennial).
5. Directory of Science Resources of Maryland 1972-1973.
6. Maryland State Programs for Local Government. December 1974.

State Department of Education

1. Annual Report (Statistical Reivew)
2. Facts About Maryland Public Education (Annual)
3. Education Systems Resources, prepared for the Maryland State Advisory Council on Vocational Education. An Assessment of Vocational Education Progress in Maryland.
4. Division of Vocational-Technical Education, Management Information for the Development of the 1974 State Plan for Vocational-Technical Education.
5. Maryland State Plan for the Administration of the Vocational-Technical Education.
6. Division of Research, Evaluation and Information Systems, The Maryland High School Follow-Up Study.

decision makers continue to rely upon. It is important in this case to assess whether or not information is reliable, i.e., what is a one-time occurrence and what is characteristic of a pattern. Observations are more reliable if backed up with hard data such as:

- the number of people using a facility and using specific features within a facility (different resources at a library);
- observation of a group at work to assess "atmosphere" might be noted;
- eavesdropping can be a highly risky technique, but often remarks made at a meeting or event will reveal reaction of the participants, provided the eavesdropper is moving around and "sampling" the group and takes the trouble to compare notes with other eavesdroppers directly after the event. (Certainly the extremes of dissatisfaction or approval will be apparent.)

Unintentional observers can provide a good source of data on events or characteristics of a neighborhood. These people are noted in advance as attending a meeting or residing in a neighborhood, and then interviewed for a specific response--What did they think of the meeting? How do they think such-and-such will affect their block?

DATA ANALYSIS

There are a variety of mathematical and statistical techniques for manipulating data including linear and multiple correlation, regression analysis, chi-square, method of least squares, statistical decision theory, and tests of hypotheses.

There are, however, three techniques which have proved useable by the non-statistician for purposes of projection. One is the index number. An index number [3] shows changes in a variable with respect to time, geography or some other characteristic. The cost of living, for example, is given as an index number. Index numbers may be: price relative; quantity or volume relative; or a weighted average of relatives, such as the Consumer Price Index.

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[3] "A statistical measure frequently employed . . . to obtain a quick overall picture of significant changes in such areas as prices of raw materials, prices of manufactured products, physical volume of production and wage rates." Neter and Wasserman, Fundamental Statistics for Business and Economics, Allyn and Bacon, Inc., Boston, 1962, p. 616.

A second technique is known as analysis of time series. A time series is a set of observations taken at specified times, usually at equal intervals. Characteristics of time series may be classified as: long-terms; cyclical; seasonal; and irregular. The steps in doing a time series analysis are:

1. collect data (insure comparability)
2. graph the time series noting the presence of long-term trend, cyclical variation and seasonal variation
3. construct the long-term trend line by using either the method of least squares, the free-hand method, the method of moving averages or the method of semi-averages
4. if seasonal variations are present, obtain a seasonal index and adjust the data, e.g., a moving average of 3, 5, or 7 months serves to remove irregular variations and reveal the cyclical variations
5. graph the cyclical variation
6. make a projection

The third technique is forecasting. It is a projective technique which can be either qualitative or quantitative. Qualitative forecasting occurs whenever a forecast is made without using specific data (numbers). This method of forecasting may be employed by an "expert" basing her/his opinion on the interplay of a number of variables. The importance of forecasting in long-range planning cannot be over-emphasized because forecasting provides a way of knowing if something which is not now a problem is likely to be a problem several years from now. For example, if the unemployment rate was 6% several years ago and has risen to a current level of 8%, what will the unemployment rate be 5 years from now? At what point will it be a problem? What are the implications?

Quantitative forecasting can be sophisticated enough to demand computer application (mathematical modeling) or simple enough to be used by every urban manager. The following health screening example has been developed to demonstrate the steps involved in one particular simple forecasting model [4]:

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[4] Executive Planning Process, State of Maryland, 1976.

69

A local health department is responsible for conducting health screenings as part of a disease-prevention program. Each year tests have been conducted to identify new instances of tuberculosis. The following data has been supplied by the secretary.

A		B	C	D	E
Year		No. of cases per 1000 screenings	% of total (1000)	Increase since previous year	Annual rate of change
-	1969	15	1.5%	-	-
Y1	1970	19	1.9%	4	27%
Y2	1971	26	2.6%	7	37
Y3	1972	35	3.5%	9	35
Y4	1973	45	4.5%	10	29
Y5	1974	57	5.7	12	27

Specifications:

1. Column A lists the number of years for which information has been arranged (usually 3-5 years is adequate for short-range trend purposes).

2. Column B indicates the size of the condition for the respective year (i.e., in 1972, 35 new cases of tuberculosis were detected per 1000 screenings).

3. Column C provides the condition's percentage increase or decrease based on the total number (tests conducted).

4. Column D indicates the numerical increase or decrease in the condition from the previous year.

5. Column E presents the annual rate of change of the condition. It is determined by dividing the size of the condition in Column B into the numerical increase of the condition since the previous year in Column D.

From this we know what has been happening. Clearly, the number of cases has been increasing every year. From a planning perspective we need to know, given this trend, how many cases will be identified in the next several years. Such a projection can be made by first determining the average annual rate of change and then applying this rate to each cell in the matrix.

Determine the average annual rate of change as follows:

For five or less years of data, we can use a formula which orders the information by adding weights to the most recent years where:

RC = the average annual rate of change
N = the number of years for which information is presented
Y1 = the most distant annual rate of change
Y5 = the most recent annual rate of change
C = the sum of the coefficients

$$RC = \frac{Y1 + Y2 + 2(Y3) + 3(Y4) + 4(Y5)}{C}$$

Next, substitute the data in the matrix in the appropriate places in the formula:

$$RC = \frac{(.27) + (.37) + 2(.35) + 3(.29) + 4(.27)}{11}$$

$$RC = 3.29/11$$

$$RC = 30\%$$

Thus, the health department can expect the condition to continue to occur at a 30% [5] rate each additional year. This 30% rate is equivalent to 74 instances in every 1000 cases for 1975. Continuing this same application to subsequent years shows the projections to be:

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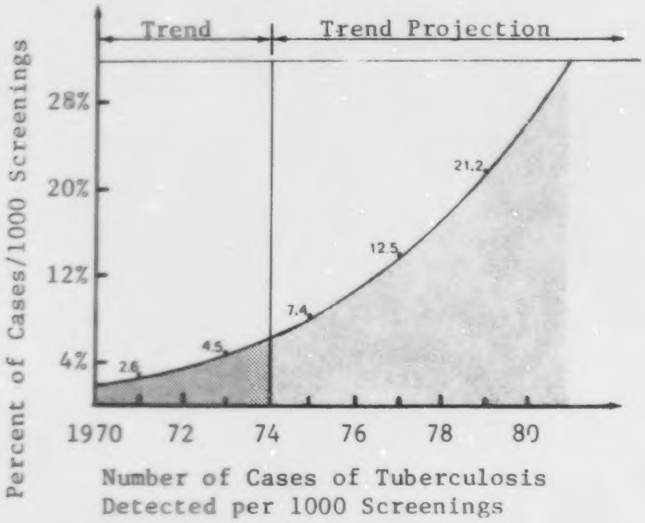
5. A 7% RC indicates that a condition will double in size approximately every ten years; a 15% RC indicates that a condition will double in size approximately every five years; and a 30% RC indicates that a condition will double in size approximately every 2 1/2 years.

A	B	C	D	E
Year	No. of cases per 1000 screenings	% of total (1000)	Increase since previous year	Annual rate of change
1974	57	5.7%	12	27%
1975	74	7.4%	17	30%
1976	96	9.4%	22	30%
1977	125	12.5%	29	30%
1978	163	16.3%	38	30%
1979	212	21.2%	49	30%

The projected increase in the actual number of instances can be vividly shown by graphing the data.



Obviously, if this rate continues, the number of cases will double every 2 1/2 years, reaching 212 instances by 1979.

Had there been a year in which the data showed a decrease instead of an increase, the same formula would still be used but the decrease would be shown as a negative value instead of a positive value.

DRAWING CONCLUSIONS

The data developed by projective techniques remains only data until such time as the manager decides that a problem exists now or will exist in the future. In order to know whether something will be a problem it is necessary to define, in advance, the "bottom line" of what is acceptable and what is a problem.

Just as data needs should be defined by the problem, so should the conclusions be based on the problem. If funding were being sought, what conclusions would prove the existence of the problem? The answer to this question becomes the parameter. This particular approach demands that a decision be made to either document the existence/depth of the overall problem or the existence/depth of a portion of the total problem. At the same time the conclusions drawn define the problem statement. For example, a general problem might be "the high incidence of rape in the city." Data analysis could easily help identify the problem as being rape in selected portions of the city, against a specific subgroup (age, race, hair color, etc.), or even at restricted times of the day. Thus the problem statement should reflect these restrictions. Subsequent strategies and projects would then be directed toward the more clearly identified problem.

SYMPTOMS/CAUSES

The final step is the delineation between the symptoms of the problem and the causes of the problem. This critical step is all too frequently skipped, to the detriment of the goals and objectives, and the results are two-fold. First, there is the haphazard disbursement of limited resources as management creates a plethora of projects--one or two for each and every symptom. Second, there is a demand to continue funding the project as more and more people realize that even if the project/activity were discontinued, the problem is not only still there but has not even been impacted upon.

Without a delineation between problem symptoms and problem causes, the situation analysis is incomplete and ineffective. Identifying problem causes is difficult because it can be somewhat subjective. For example, data may show that citizens in one section actively participate in available community services and that citizens in another section do not participate. Your objective is to improve the participation ratio of the nonparticipating group. The data probably will not show that those areas which participate do so because they are bused into the community but the others live in an area with roads so narrow that buses cannot navigate them. Therefore, the people along these roads do not participate.

We know that symptoms are those things which let us know there is a problem in much the same way that a fever is an indication of a possible health problem. Additional symptoms and possible causes include:

SYMPTOM	POSSIBLE CAUSE
High school drop-out rate	o Lack of reading skills o Availability of low-skill jobs o Non-relevant curriculum o Negative attitude of teachers
Congested streets	o Too much traffic o Inadequate off-street parking o Double parking o Daytime delivery schedules o Not enough streets
High rate of infectious disease	o Lack of knowledge of sanitary practices o Abundance of rats, fleas, etc. o Failure to secure appropriate vaccinations

Once the possible causes have been identified it is simple to develop strategies and projects to impact on the problem.

No matter how well the data has been developed, it will be worthless unless presented in a way which can be clearly understood. Specifying the problem is a way of describing the problem so that its parameters become known and some possible causes are eliminated. One model for both specifying and presenting the problem is known as the Kepner-Tregoe Model. The following example [4] demonstrates the use of the Kepner-Tregoe Model in a typical local transportation situation. Rather than stating the problem as one of "traffic congestion," it can be specified as follows:

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[4] Adapted from Kepner, C.H., and Tregoe, B.B., The Rational Manager, McGraw-Hill Book Co., New York, 1965.

	IS	IS NOT	WHY?
WHAT:	Automobile	Truck	
WHERE:	Central business district	Residential area	
WHEN:	Rush hours	Off hours	
EXTENT: (how much, how many)	Bumper-to-bumper, not moving	Slow but moving	
POSSIBLE CAUSES:	o Untimed traffic signals o Lack of left-turn lanes o Inadequate off-street parking o Lack of by-pass arteries		

After gathering the data and being as precise as possible concerning the "Is" and "Is Not" (e.g., 4:05 P.M. to 5:17 P.M.; Vine St. and Market to Vine and Broad), you are in a position to look at what is happening. New questions arise such as, "What is different?" and "What has changed?" Then you can explore the dynamics of the situation and form hypotheses about the "Why?"

Situation analysis is the process of comparing what IS happening to what SHOULD BE happening. To do this it is necessary to determine what should be happening. This statement of what SHOULD BE becomes the bottom line. Formulating this bottom line is, perhaps, the most difficult aspect of situation analysis. By identifying the reasons between the IS and IS NOT states, the manager is better able to identify the possible causes of the deviation.

Before electing to focus attention on a particular deviation (problem), the manager must first answer the following questions:

- o How urgent is the problem (time)?
- o How serious is the problem (impact)?
- o What is the likelihood of the problem's magnitude increasing?

SOLUTION

Now that the many aspects of situation analysis have been investigated, the urban manager is in a position to consider the various solution activities available. These include:

- Interim - buys time for completing additional analysis
- Adaptive - allows for living with the tolerable effects of a problem with a non-eradicable cause
- Corrective - eliminates known causes
- Preventive - reduces the probability of a problem occurring
- Contingency - provides stand-by arrangements to offset or minimize the effects of a serious or potentially serious problem

The final selection of one or more solution activities should be done ONLY after completing an assessment of the organization responsible for the implementation of the solution activity(ies). Such an assessment should include:

- strengths/weaknesses
- assets/liabilities
- staff capability
- structure
- past, present, future funding levels
- relationship to other local organizations
- current activities
- past performances

To insure that all significant factors have been identified, frank discussions should take place among key managers. Organization analysis should not be ignored.

SUMMARY

Situation analysis which includes problem identification, data consideration, data collection, data analysis and drawing conclusions, is perhaps the most important part of the strategic planning process. Problem analysis allows for determining:

- The most significant parts of the problem
- The symptoms/causes
- The resources necessary
- Alternative solutions

SITUATION ANALYSIS
SUGGESTED READINGS

BOOKS

Churchman, Charles W. and others. Introduction to Operations Research, New York, John Wiley and Sons, 1957.

Kepner, Charles H., and Tregoe, Benjamin B. The Rational Manager, New York, McGraw-Hill Book Company, 1965.

PERIODICALS

Alkin, Marvin C. "Systems Analysis: Problem and Prospects," Planning and Changing, July 1970.

________________. "Quantitative Techniques," Harvard Business Review, May 1976.

SITUATION ANALYSIS WORKSHOP I (30 Minutes)

INSTRUCTIONS

In order to complete this analysis it will be necessary to complete three major activities: problem identification; problem documentation; and problem specification.

FIRST: After reading the case study and reviewing the attachments, list those things which are stated or perceived problems.

SECOND: As a group identify the symptoms and causes of the problems. As a group, select a problem which, if left untouched, would prove detrimental to the City of Rockville. Check yourself by asking the question: If the causes were alleviated, would the problem still exist?

EXERCISE

Problems	Symptoms	Cause(s)

Selected most significant problem ______________________________

SITUATION ANALYSIS WORKSHOP II (60 minutes)

INSTRUCTIONS

For the problem selected, use the forecasting model to determine the anticipated scope and magnitude of the problem. Use the data presented in the case study and attachments. Round to hundreds (or thousands) for ease in computation.

EXERCISE

Selected most significant problem ____________________

Step 1

YEARS	NUMBER OF OCCURENCES	ABSOLUTE CHANGE FROM PREVIOUS YEAR	ANNUAL RATE OF CHANGE
Y1 19			
Y2			
Y3			
Y4			
Y5			

Step 2

Average annual rate of change =

$$\frac{Y1 + Y2 + 2(Y3) + 3\ (Y4) + 4\ (Y5)}{C}$$

N = number of years for which data is presented
Y1 = the most distant annual rate of change
Y5 = the most recent annual rate of change
RC = average annual rate of change
C = sum of the coefficients

$$RC = \frac{Y1 + Y2 + 2(Y3) + 3(Y4) + 4\ (Y5)}{C}$$

$$RC = \frac{\underline{\hspace{2em}} + \underline{\hspace{2em}} + 2(\hspace{3em}) = 3(\hspace{3em}) + 4(\hspace{3em})}{11}$$

$$RC = \frac{\qquad\qquad\qquad\qquad\qquad\qquad}{11}$$

RC =

Step 3

Projected Number of Occurrences

YEAR	OCCURRENCES	
Y5		(actual)
Y6		Y5 + (Y5 X RC)
Y7		Y6 + (Y6 X RC)
Y8		Y7 + (Y7 X RC)
Y9		Y8 + (Y8 X RC)
Y10		Y9 + (Y9 X RC)

SITUATION ANALYSIS WORKSHOP III (30 minutes)

INSTRUCTIONS

For the problem selected, use the Kepner-Tregoe model to specify the problem (what or who is affected, when does the problem occur, where does it occur, what is the extent of the problem). Remember that this model requires you to identify what the problem IS as well as what the problem IS NOT. WHY is an explanation for the difference between the IS and IS NOT. The response to WHY guides the development of alternatives. If needed, check the Situation Analysis reading.

EXERCISE:

	IS	IS NOT	WHY
WHAT:			
WHERE:			
WHEN:			
EXTENT:			
POSSIBLE CAUSES:			

MODULE 3

SETTING OBJECTIVES

Objectives: The objectives of this module are to: appreciate the rationale for formulating objectives; demonstrate an ability to write objectives meeting stated criteria.

SETTING OBJECTIVES

The goals and subgoals have been articulated. The problem has been analyzed and specified. It is now appropriate to narrow the focus and to state clearly what is to be accomplished in the immediate future. This statement of anticipated accomplishment is the *objective*. Unlike either the goal or the subgoal (with which it is consistent), the objective is *quantified*. Therefore, it is something for which the organization can be held accountable.

LEVELS

ORGANIZATIONWIDE

Objectives can and frequently do appear on several different levels within the total organization. They may appear on an organizationwide level. Organizationwide objectives evolve from and are consistent with the goals and subgoals. It is not unusual for several different objectives to evolve from a single subgoal.

DEPARTMENT

The next appropriate level for the formulation of objectives is the department level. If organizationwide objectives have been articulated, the departmental objectives should be consistent with them. However, if none have been articulated for the entire organization, then some must be *assumed* before departmental objectives--which must be consistent with the assumed organization objectives--can be formulated. Departmental objectives are usually based on a 3-year projection of what the department hopes to accomplish.

PROGRAM

Several related projects may be developed in order to achieve department level goals. These related projects are frequently referred to as a *program*, e.g., a housing program, a manpower program, etc. Each program will have an objective which is a quantified statement of expected accomplishment. The inclusion of a program level of operation most frequently occurs in multidirectional organizations, e.g., Model Cities Agencies, Departments of Human Resources. Single purpose organizations may have no need for program level activities or objectives.

PROJECT

The lowest level for the formulation of objectives is the project. The project objective states in quantified terms what the project expects to accomplish. It must evolve from and be consistent with the program level objectives. In the absence of program level objectives, the project objectives must be consistent with the departmental objectives.

Regardless of the level at which they occur, objectives are based on an analysis of the data, the issues, and organizational capabilities. This is especially true in the development of new objectives [1]. The difference among objectives occurring at different levels is the scope/magnitude of accomplishment. Each lower level objective evolves from and is consistent with the higher level objectives. This may occur in two different ways. First, the lower level objective may merely have a lower level of expected result than the higher level of objective. Second, the lower level objective may relate to the assumption of the higher level objective. In the following example, the department objective is based on an assumption that one way of insuring access to economic mobility is through education, specifically reading skills.

LEVEL	OBJECTIVE
Citywide	To insure that all citizens have equal access to economic mobility
Department	To raise to national norms the reading level of all students in the public schools (pre-college) by 1984
Program	To raise to national norms the reading level of all pre-school through 6th grade students by 1979
Project	To raise the reading-readiness level to 1.0 of all children in the XYZ Head Start Project by September, 1979

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1. When deciding on the usability of old objectives, careful consideration should be given to any changes which may have occurred since the old objective was first formulated.

GOALS AND OBJECTIVES: COMPARISON

Confusion often arises concerning the difference between goals and objectives. In conversation, many people use the two terms interchangeably. This can create special problems if a planning model which uses both goals and objectives is being used. In brief, remember that goals are general, objectives specific; goals are long range with no time specified, objectives are time-bound; goals can be idealistic, objectives should be achievable.

The following chart should clarify some of the essential differences:

GOAL	OBJECTIVE
Long range (10-15 years or more), time not exact	Short range (1-5 years), time specific
States general outcome or desired condition, not measured directly	States specific outcome, can be measured directly
Not appropriate for managerial accountability	Appropriate for managerial accountability
May be idealistic, a direction to strive toward	Should be realistic (reasonable probability of success)
May include multiple outcomes	Specified single outcome or result
May use "soft" or "weak" verbs (increase, administer, facilitate, communicate, understand)	Uses "strong" or "action" verbs (increase by, complete, demonstrate by, publish, process)
Achievement is an end in itself	Achievement advances system towards goal, is consistent with goals

SPECIFICITY

Regardless of the level of occurrence, objectives should specify:

- what is to be accomplished
- how much is to be accomplished
- within what time frame
- who/what is the target

An objective should be a specific statement of what is to be accomplished. An objective should not specify how something is to happen. As the following example shows, the formulation of an objective goes through several steps of refinement.

	OBJECTIVE	EVALUATION QUESTION
WRONG:	Train 100 students	To do what?
RIGHT:	Increase the employability of 100 persons ages 18-25 by 1977	Why increase their employability? From what to what?
BETTER:	Raise to apprentice level the employability skills of 100 persons ages 18-25 by 1977	Why increase their employability skills?
BETTER:	Place into at least apprentice level jobs, 100 persons ages 18-25 by 1977	Will the problem be relieved if successful? (Statement answers other questions.)

This concept is very important because if the objective states only the activity, it then becomes possible to achieve the objective without having any impact on the problem. Also, the objective serves an important management function by forcing decisions to be made which direct the organization toward attaining the objective.

However, to formulate viable objectives, information on community conditions and client value systems must be known. An objective--to place 100 unemployed males ages 18-15 into upwardly-mobile clerical positions paying at least $4.25/hr.--may not be met simply because being in a clerical position violates the value system of the potential target group.

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Objectives may meet the specificity requirements and still not be usable. Usable is defined as being a clear statement describing what the manager is accountable for. A usable objective allows the manager as well as the evaluation team to determine accomplishment.

OBJECTIVE	WHAT IS WRONG
"To establish 3 new supplementary education courses for older persons and to contract for transportation to the classes for 100 persons per week by the end of the fiscal year."	This objective contains two aims: 1) to establish the 3 courses; and 2) to contract for transportation to the course sites. Each objective calls for a different course of action and a different assessment. If one aim has been accomplished and not the other, it is unclear to what extent the objectives have been achieved. Nor is the objective end-product oriented.
"To increase utilization of available services by providing reasonably convenient supporting services."	Although the primary aim is "to increase utilization of available services," the statement includes the purpose of intent to provide "reasonably convenient supporting services" and a strategy of "by providing reasonably convenient supporting services." The purpose of providing supporting services is to increase utilization of available services.
"By June 30, 19__, to increase utilization of available...(identify type of services)... services by 25%."	Now it is clear that the intent of the objective is to increase the utilization of existing available services. Any supportive services which may be required to accomplish this objective could then be specified by the action steps developed for this objective. By rewriting the phrase to clarify a a single aim, the intent of the objective has been clearly communicated.

"To insure that 12,000 inexpensive, nutritional meals are provided for older persons in X county, and to institute nutrition education classes for 400 older persons by the end of the fiscal year."	Specifies two end products. The end products are: 1) 12,000 inexpensive meals; and, 2) the contract for nutrition education classes. This objective should be broken up into two objectives. "Inexpensive" should be defined as should "nutritional" and "older."
"To develop leadership by older persons and foster advocacy on behalf of older persons in the county."	"Leadership" and "advocacy" are terms which require interpretation. What an outside observer defines as leadership may not be what you had in mind at all. Since what will be observed or measured to test "leadership" or "advocacy" is not clear, the objective has no end product or result.
"To write 100 letters to Area Agencies by April, 19__."	Has a clear end product (100 letters). But is "writing letters" really what you want other people to think you are doing? "To write letters" is, in fact, a single purpose, and technically meets the criteria as stated. But, is it really what you want to communicate as the purpose? Or is there a basic reason behind writing the letters?

Frequently an organization has a stated objective that states only what is supposed to happen rather than the result of the happening. Objectives stating what is to happen are frequently referred to as quality objectives, e.g., "To improve the quality of the organizational environment." However, objectives state what the manager is accountable for, and so the nonquantitative objectives should be converted into a measurable--quantitative--form. For example:

QUALITY	QUANTITY
Conduct monthly management sessions for superintendents in techniques of standard cost programs.	Have 50 percent of superintendents using standard cost programming techniques on at least two projects by end of July.

Prepare a program for patent protection.	Have no patent loopholes in our patents discovered by our own staff, independent agents, or competitors during 1972.
Prepare and distribute an internal public relations manual.	Obtain an average of 75 percent unaided recall by all non-managerial employees of 50 percent of the key corporate activities or accomplishments of the prior month for each month during 1973.
Improve statistical reports to reduce time lag between production and publication dates.	Without decreasing usable content reduce by an average of four days the time to distribute the following reports by end of September 1972.
Prepare quality control manual for supervisors.	Eighty-five percent of first-line supervisors able to identify eight of the ten key points in the company quality control practice by end of December 1972.
Improve appearance, packaging and design of products.	For each item in product line, design a package which will receive more consumer jury votes than any competing product by end of November 1972.
Undertake to ally research efforts more closely with production needs.	Have at least 80 percent of proposals to production manager accepted during 1972.

CONSIDERATION FOR SELECTION

There are two ways of approaching the setting of objectives. The most common way is for the manager to write an objective for every single activity the organization is doing. This approach may create a situation wherein each objective, although specific, bears little or no relationship to another.

The other approach, more difficult and less frequently used, involves setting objectives which evolve from and are consistent with organizational goals and subgoals. The organization would then terminate those projects which are not in keeping with the objectives. This second approach is more time-consuming because it requires assessing all possible objectives against predetermined criteria. For example:

- Is this objective consistent with organizational goals and subgoals?
- Is this objective realistic?
- Is this objective appropriate to the need?
- Will meeting this objective have a positive or negative impact on other objectives?
- Is there a probability of success?
- Is it worth the effort to accomplish this objective?

SUMMARY

It is also important that objectives present a challenge. An objective should reflect the greatest possible change or impact which can be created within the limits of existing resources. If an objective can be reached in a short period of time or with little effort, consider making it part of a larger objective.

As the plan is developed it may become necessary to revise the objectives. Objectives also may be revised after the plan is operative. On an organizational level objectives define not only that for which the organization is willing to be held accountable, but they also provide a framework for subsequent strategies and projects. The setting of objectives should not be taken lightly.

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SETTING OBJECTIVES
SUGGESTED READINGS

BOOKS

Mager, Robert F. Preparing Instructional Objectives, Belmont, CA, Lear Siegler, Inc./Fearon Publishers, 1962.

McAshan, H.H. The Goals Approach to Performance Objectives, Philadelphia, W.B. Saunders Company, 1974.

PERIODICALS

Young, Robert C. "Goals and Goal-Setting," AIP Journal, March 1966.

OBJECTIVE SETTING WORKSHOP (60 Minutes)

INSTRUCTIONS:

FIRST: Working as a group, identify four broad objectives (5 year) for the City of Rockville. The objectives should come from--and be consistent with--the goal and subgoals.

SECOND: Working as a group, decide which Rockville department your group will be. (See organization chart attached to the case study.)

THIRD: As a group, identify 3 objectives (3 year) derived from the broad objectives for your department to impact on the problem which was documented in the Problem Analysis Workshop. These objectives demonstrate how well the department is "buying into" the broad objectives.

FOURTH: (In group discussion) Are the objectives consistent with the goals and objectives?

Are they realistic?

Are they appropriate to the identified need(s)?

How will they impact on other objectives?

Will it be worth the effort to accomplish the objective?

Does each objective statement specify:
- Time?
- Outcome (measurable achievement)?
- Single result?

EXERCISE:

Broad Objectives
(5 years)

1. ______________________________
____
2. ______________________________
____
3. ______________________________
____

Department ______________________________

Department Objectives
(3 years)

1. ______________________________
____
2. ______________________________
____
3. ______________________________
____

MODULE 4

STRATEGY/DECISION MAKING

Objectives: The objectives of this module are to: distinguish means from ends; recognize various types and applications of strategy; demonstrate the ability to use a force field analysis to develop strategy; recognize various decision-making techniques; demonstrate an ability to use a matrix technique for decision making.

STRATEGY/DECISION MAKING

STRATEGY

ROLE OF STRATEGY

Every organization needs guidance and direction in order to accomplish its objectives. This statement of direction is the strategy. It will provide framework for including some projects while excluding others. The strategy statement is an action statement describing how something will be accomplished, not what will be accomplished. The strategy statement provides a linkage between the presumed cause of the problem and the project, in that it helps preclude the development of projects dealing with each symptom of a problem. Strategies are the means which will achieve the desired ends (goals, objectives) specified in the plan. They are also referred to as alternative courses of action or alternatives.

The behavioral science approach focuses on the complexity of the problem, and therefore, the causes of the problem. Since the strategy is based on the cause of the problem, it may be appropriate to institute a multi-level strategy. A primary strategy is a broad, encompassing means statement describing the overall approach to the broad problem; secondary strategies describe the component means for carrying out the primary strategy:

PROBLEM: Certain groups of people lack sufficient income [1]

PRIMARY STRATEGIES:
1.0 increasing income
2.0 economic development
3.0 service delivery

SECONDARY STRATEGIES:
1.1 generating additional income
1.2 providing supporting income
1.3 substituting income
2.1 attracting new business
2.2 expanding existing business
3.1 increasing established services
3.2 providing alternative services

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[1] Assumptions about the cause of the insufficient income lead to the primary strategy. Secondary strategies are developed based on information about the best way to either generate real income or income substitutes.

Cities also often have one or more strategies to achieve their goals. In this case the goal is usually a statement which describes the absence of a current problem. For example, New York City has a goal of adequate revenue to insure appropriate service delivery to all neighborhoods. To achieve this goal the city could:

STRATEGY 1:	Secure additional external funding
STRATEGY 2:	Decrease level of services provided
STRATEGY 3:	Close down decaying neighborhoods with their high per capita cost

STRATEGY DEVELOPMENT

The strategy development phase of the planning model is an important process step. Too often, planners and managers tend to underrate the importance of formal strategy development--you simply decide what you are going to do, then plan to do it. By doing so, it's easy to miss a better way of achieving your objectives. It is necessary to develop and consider alternative means, or courses of action, to reach the stated objectives. The development and consideration of alternatives is common to virtually all planning models. By formulating and testing alternative approaches during planning, you increase the probability of implementing a better strategy and therefore of reaching your objective in a more efficient manner. You don't guarantee a better result in each case, but you do improve your overall decision-making quality.

FORMULATING STRATEGIES

No phase in the strategic planning process takes place in a vacuum. In formulating strategies, begin with the work that has already been done. The situation has already been defined--you already know what is to be achieved by the objective(s)--the question is "how should we do it?" During this phase we concentrate on developing several alternative means which might be selected to reach the objective and resolve the problem that has been identified.

For example, if the objective is: "Reduce the personal crime rate in the CBD by 25% over 3 years," we have a structure to begin working with. We can re-examine the work done in the analysis phase, consider our assumptions about problem causes and symptoms, and develop possible strategies. Potential strategies might include:

- increase police concentration
- improve lighting

- improve drug enforcement and treatment programs (if a cause is drug addiction)
- decrease use of CBD

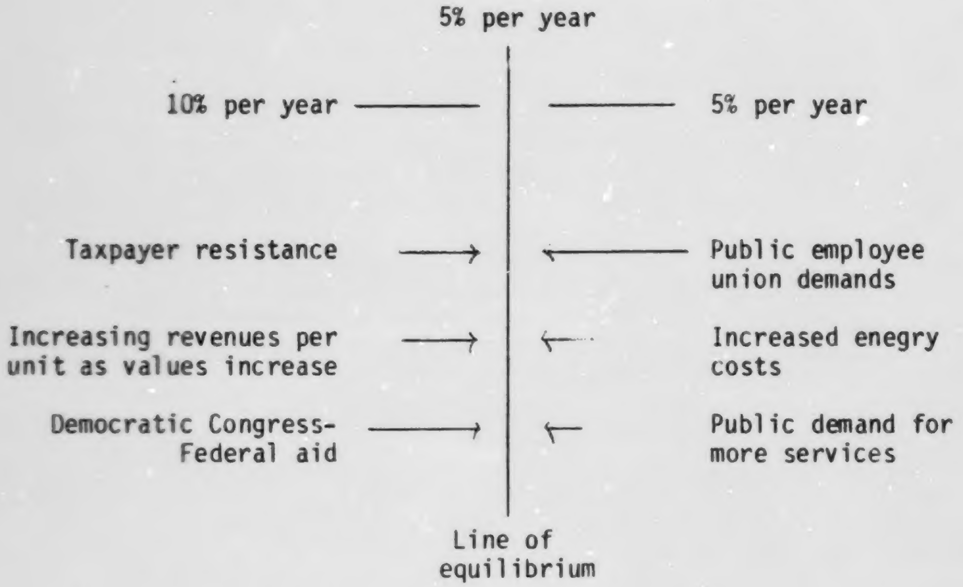
A variety of approaches may be used in developing alternative strategies for consideration. The main thing, of course, is that several different approaches be considered. The final decision may be to continue with the strategy already in effect, but you can't assume that what you are doing now (even if it works) is what you should be doing in the future. The general steps which should be followed during this phase of planning include:

1. Re-examine situation analysis and objectives
2. Consider/diagnose the problem situation (to reach objective)
3. Develop alternative strategies

One of the major pitfalls in the process of strategy development is the tendency to jump into a solution too rapidly. The more you know about the problem situation, the more likely you are to identify a "good," creative solution. Once again, the techniques we discussed under situation analysis, such as the Kepner-Tragoe diagnostic approach, may be applied. Force field analysis is another method of analyzing the problem to stimulate strategy development.

Force field analysis, developed by Kurt Lewin, graphically demonstrates the forces operating against, and for, the desired end state. Lewin shows this current state as the "line of equilibrium." The length of the arrow identifies the amount of strength (impact) emanating from that force. The hypothesis is that by influencing the forces, the line of equilibrium can be moved.

For example, if the objective is "To limit the rate of property tax increase to no more than 3% per year over the next five years," we would first establish the point of equilibrium (the status quo). The task is to move the line of equilibrium in the desired direction. First identify the forces that seem to be operating for and against the desired end state. Then indicate the strength of that force. An example of a force field analysis on forces impacting on the potential for achieving this objective follows.


5% per year
10% per year
5% per year
Taxpayer resistance
Public employee union demands
Increasing revenues per unit as values increase
Increased enegry costs
Democratic Congress-Federal aid
Public demand for more services
Line of equilibrium

After identifying the major forces which seem to be operating --in some cases this can be done in a "brainstorming" session, in others it could require months of research (surveys, literature/research)--consider the implications of the situation. Which forces are the most important? That is, if we could change it, how much impact would it have in moving the line in the desired direction? How easy or difficult will it be to alter the force? Often, the high impact forces are the most difficult to influence.

Remember, the force field approach is a tool which can suggest strategies, and guide decision making--it does not insure that the best approach will be developed. It should lay out the situation in a new way, so that new insights are gained and creative solutions become obvious. Any strategy which is selected would require increasing positive forces, decreasing negative forces or changing the vector of either. The "best" strategy may well be a combination of all three.

Next, having diagnosed the situation and given ample time for consideration, some potentially workable approaches must be formulated. This is perhaps the most creative part of the planning process and it requires thought and imagination. Hopefully, much of the necessary discipline has gone into the earlier steps. The main criterion to consider is effectiveness-- will it work? Can it be made to work? At first, anything goes. Some of the best alternatives may appear impractical at first, but there will be time enough later to throw out strategies that don't seem to fit.

The simplest, and not always the easiest, approach to strategy development is brainstorming. This can be done by an individual manager, or by a group (staff, clients or experts). Here you simply compile a list of strategies which someone thinks might work, no matter how wild. At its simplest, this can be done in one session, with no research or preparation, just consider the problem, and brainstorm solutions. More often, brainstorming is the end of a process, or an ongoing one that must be fed by research of one type or another.

Research includes: talking with experts, examining the literature for theoretical solutions to the problem, and reviewing what others have done in similar situations (other cities, other departments in your city, etc.). The result in either case, should be a general statement of approach, which can be fleshed out later in project development and implementation planning (if it is selected). You need enough to proceed to the next phase of the model--decision making.

EXAMPLES

There is an implicit assumption that if the strategy is effective, then the problem will be alleviated, or at least modified. The key question to be asked about a potential strategy is: Will this have any impact on the problem? It is important to remember that occasionally the problem will be solved by directing the strategy toward someone/something other than the person/thing with the problem.

For example, not too long ago the Office of Social Security was deluged with complaints about stolen Social Security checks. Administrators decided on the following two strategies which did not work:

	STRATEGY	RESULT
Strategy 1:	Request landlords to install stronger, more secure mailboxes	Landlords ignored request
Strategy 2:	Direct recipients to pick up checks at Social Security offices	Recipients were assaulted and checks were stolen on the street

The final, and workable, strategy was to mail the checks directly to the bank designated by the recipient for direct deposit into their personal checking account.

Several problems may have an identical cause and so may be solved by using the same strategies. For example:

PROBLEM	STRATEGIES
people living in sub-standard dwelling units	o construction of new dwelling units
sub-standard dwelling units reduce tax base	o rehabilitation of existing dwelling units
	o demolition of sub-standard dwelling units
sub-standard dwelling units force flight to suburbs	o changing the definition of code standard

SUMMARY

The process of formulating and testing strategies in the public sector must be done with the same care and concern that occurs in the private sector. To do this the following questions must be raised and answered:

- What is the current strategy? What problems are associated with it? Is it internally consistent? Are there new concerns to be considered?
- Where does the organization want to be? What kind of organization does it want to be?
- What alternatives exist? What are the resources needed for each one? What alternatives are the preference of top management?

After the problem causes have been identified and alternative strategies developed decisions must be made based on organizational resources. These decisions include the priority and timing of the application of the strategies.

TESTING AND DECISION MAKING

There are many opinions concerning the best method for making a decision when selecting one alternative from among many. Many managers make "gut" decisions based either on prior similar experiences or on fantasy. Some managers believe that the best decision is no decision and that, with no effort on their part, the "right" thing will just happen. There are also a select few who understand that all decision making involves a certain degree of risk. And that the intent is to minimize the risk by considering all possible variables. These are the managers who attempt to utilize an organized method for decision making.

LEVELS OF DECISIONS

"I don't make any decisions" is a frequently heard comment from government employees. However, it is not true. Job-related decisions are made at all levels and by all employees. What differs is the level or kind of decision. Before examining the kinds of decisions made during the strategic planning process, it is important to identify the various levels of decision making.

- City Council
- Mayor
- Chief Administrative Officer
- Departments
- Bureau/Office
- Program
- Project

These levels are shown in descending order, that is, in levels away from the top.

KINDS OF DECISIONS

Within each stage of the strategic planning process there are three basic kinds of decisions: policy decisions, planning decisions; and management decisions.

Policy decisions occur when the manager is faced with such issues as: what the organization's objectives should be; whether or not to become involved in a particular issue; whether or not to take part in a citywide task force; or how to deal with newspaper attacks.

Planning decisions occur when ways of implementing objectives have to be developed, or when deciding on program or project mix.

Management decisions occur when an organization begins operating and sets out to achieve its objectives. Decisions have to be made every day about scheduling, staffing and organizational interrelationships.

Policy, planning and management decisions occur at every level of government. For example:

LEVEL	POLICY	PLAN	MANAGEMENT
Citywide (Mayor/ Council)	Contribution of general funds	Composition of citizen advisors	Evaluating departments
Department	Selecting the strategy	Allocating resources and project mix	Staffing patterns and making assignments
Project	To use evaluation	Adjustments to meet objective	Determining levels of output

Decision making occurs during virtually all phases of the strategic planning process. The techniques covered in this module might well be applied to other parts of the process where a choice must be made among alternatives. Because alternative strategies should always be developed and considered, rational decision techniques are in order.

The objective has been set, the situation analyzed, and alternative strategies developed. The next step is to choose a strategy to be developed for implementation. Any rational model for choosing requires the following general approach:

(1) Develop criteria for making the decision

(2) Gather information to test or compare alternatives according to the criteria

(3) Compare, test alternatives

(4) Select the best choice (may be a combination based on the assessed information)

There are a variety of decision-making models which can be used at every level to help provide additional information which the manager can use to improve the quality of his/her decision making. Some of these include the use of criteria. Decision models are either qunatitative or qualitative.

CRITERIA SELECTION

Before you begin playing a game or enter a contest, it is a good idea to learn the rules and standards for judging the outcome. It would be frustrating to enter the Boston Marathon, finish in the fastest time and then discover that the winner was the person with the most remaining shoe leather. And yet, work is often done, information prepared, or studies conducted, only to find that the decision maker was operating on different assumptions. Many problems can be avoided if appropriate criteria are developed and agreed upon from the outset. If you are the decision maker, determine in advance what you consider to be the most important factors in making the decision in question. The factors will vary from decision to decision.

Most criteria for making decisions fall into three broad categories: effectiveness, feasibility and acceptability. In fact, it is possible to make some general decisions using just these three criteria. Each can, of course, be expanded.

Effectiveness criteria address the issue of impact. If we implement the alternative, will the objective be met? With what probability? What will the risk (cost) be if it fails? How well did it work elsewhere?

Feasibility criteria are concerned with practicality. How much will it cost? Can we afford it? Do we have the staff skills to carry it out? How long will it take?

Acceptability criteria deal with reaction to the decision. So-called "rational" decision models are often rejected by public managers who claim, "It's all political anyway." If political factors enter into a decision, then political criteria should be included. Criteria in this category include: interest group reaction; public reaction; staff acceptance; and potential consequences.

By specifying criteria in advance, one limits the kinds of data that should be developed. This is more efficient than collecting every possible bit of information, only to find that most of it will not apply to the decision itself. For each criterion selected, determine what kind, and how much, information will be required to compare and test the alternatives under consideration.

In some cases the information-gathering phase will be relatively simple and unsophisticated; in others it will be highly complex. For example, if cost is a major factor, it may be easy to estimate the program costs either through past history, especially if the alternative is already in effect, or a phone call to an "expert" or contractor. Or, it may be necessary to construct a complex model with tasks, activities, manpower estimates, capital estimates and risks taken into consideration. In some cases, it will be easy to judge an interest group's reaction ("the union won't like it"), in others, a survey may be required.

TECHNIQUES

There are a large number of specific techniques which may be employed during this phase of decision making. We will simply survey a few of the many options available, without going into great detail for any one technique. Any model for decision making should include criteria for effectiveness, and there are a variety of techniques available to assist us in ranking effectiveness. What we are asking is, "If we do it, how well would it work?" Some of the techniques which may apply here are: review of literature and evaluation materials, probability analysis, and decision-tree analysis.

Reviewing literature and evaluations is not a technique but an activity. However, it is an activity which is one of the most obvious and useful, but frequently overlooked, sources of data. One way of predicting how well an alternative would work if implemented is to determine how well it has worked before. To get this information, examine journals such as Public Administration Review and Practicing Planner, obtain reports, talk with counterparts in other localities, and attend conferences. This approach still requires that you use your own judgment to determine if the reported situation is similar enough in the essential elements to compare it to your own.

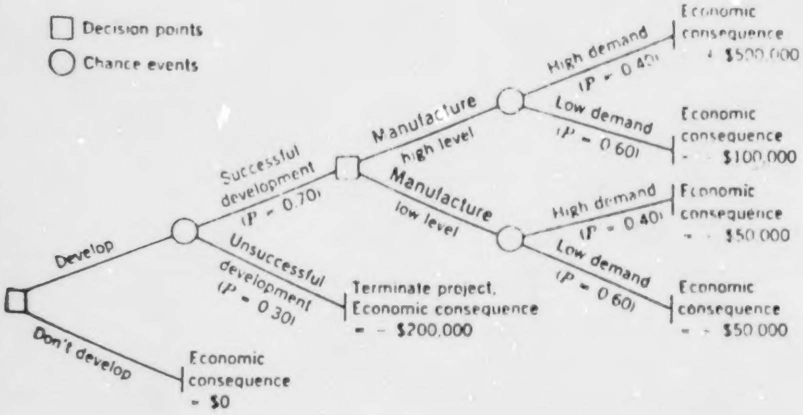
PROBABILITY ANALYSIS

The application of probability analysis is appropriate whenever the value of one or more variables in the model cannot be specified but the likelihood of occurrence at various levels is known. For example, the public works manager may know that in the impending snowstorm there is a .97 probability of receiving at least 1/2" of snow, a .75 probability of 1", a .50 probability of 2", but only a .10 probability of receiving more than 4". Given this, the manager is likely to put sufficient crews and equipment on duty to handle a 1" fall, sufficient crews and equipment on standby to handle a 2" fall, and take the risk that the storm won't bring more than 4" of snow. In this case, the manager is minimizing the overall risks associated with the decision.

It is also possible to use this technique to estimate and compare the potential impact of program alternatives based upon evaluations of past performance. For example, if the objective is a 25% reduction in the crime rate, a specific street lighting strategy may have resulted in decreases of 5%, 10%, 20%, 30% and 33% in five different communities. A manager could assume the probability is very high that the reduction in the crime rate would be at least 5% and that the probability is low that the crime rate would decrease by as much as 30%.

DECISION-TREE ANALYSIS

Decision-tree analysis is especially useful in sequential decision-making, i.e., when the need to make a second decision is based on the outcome of the first decision. It is a variation of the simpler probability analysis, but also deals with probability and risk. The decision tree portrays all decision points and their results in a sequential order of occurrence. The value of a decision-tree analysis is that it permits the decision maker to look ahead to the implications of the initial decision. The following is an example of a decision tree for the sequential decision problem of whether or not to produce a vaccine:


☐ Decision points
○ Chance events
Develop
Don't develop
Economic consequence = $0
Successful development (P = 0.70)
Unsuccessful development (P = 0.30)
Terminate project, Economic consequence = − $200,000
Manufacture high level
Manufacture low level
High demand (P = 0.40)
Economic consequence = + $500,000
Low demand (P = 0.60)
Economic consequence = − $100,000
High demand (P = 0.40)
Economic consequence = − $50,000
Low demand (P = 0.60)
Economic consequence = − $50,000

It is important to note that the decision-tree analysis does not assure the correctness of each decision but is oriented toward optimizing the average economic result over a period of time.

CRITERIA MATRIX

When the information necessary to compare alternatives has been gathered and organized, the next step is to test the alternatives against each other and the criteria. Most rational approaches to the actual choice involve some variation of the criteria matrix approach. This technique can be extremely simple, or it can be highly sophisticated. A more intricate variation for detailed decision making is the paired-comparison matrix method for comparing alternatives. Finally, once you have made a basic decision concerning the alternatives, there may be a need to apply additional operational decision techniques to determine an optimum mix among selected strategies, or the most efficient scheduling approach. Linear programming and queing theory are examples of these operational-type decision models.

The criteria matrix approach involves identifying the alternative courses of action and listing them on one axis while listing the criteria for selection on the other axis. The critical element in using the criteria matrix is in the selection of criteria. The most common criteria are: cost, time for implementation, and probability of success. Some additional considerations might include:

- feasibility in terms of available resources
- fitness in terms of related activities or of other parts of the organization
- effectiveness in meeting a significant portion of identified need
- appropriateness to historical and legal functioning of the organization mandate

There are several variations of the criteria matrix approach:

Qualitative

The alternatives are compared with each criterion. The matrix shows a + each time a particular course of action fulfills a criterion for selection and a - each time it does not meet the criterion. Another variation uses a 3-point scale: +, 0 (doesn't meet the criterion), and - (may have negative impact, costly consequences). The action with the most +'s would most likely be selected. The advantage of this approach is that it makes it easier to avoid the potential trap of taking the numbers too literally if a numerical system is used. This system is obviously a guide to inform the decision, not a precise scientific model.

Numerical Scaling

The same basic approach as the qualitative criteria matrix, but numbers are used instead of symbols. Different models use different ranges of numbers for rating the courses of action. The most common are 0-3, 1-5, 1-10, with the higher numbers representing a "better" performance with regard to the criterion. You can also use a negative range of scaled numbers such as -3 to +3 to incorporate potential risk or ill effects, such as impact on other objectives, financial risk, damaging public relations.

Weighting

Obviously, some criteria are more important than others in most situations. This can be taken into account by weighting the matrix so that the most important criteria count for more than the secondary ones. Weight the importance of each criterion by using a consistent scale (1-3, 1-5, or 1-10) or a constant sum (10 points, 100 points--all points must be used, but can be divided up among criteria in any manner as long as the total is the selected sum). The performance rating for each alternative is then multiplied by the weighting factor in the appropriate criterion and the results are summed for each alternative.

(1)

ALTERNATIVES	QUALITATIVE CRITERIA				TOTAL
	W	X	Y	Z	
A	+	0	0	0	1+
B	+	+	+	-	3+
C	+	0	0	+	2+

(2)

ALTERNATIVES	NUMERICAL SCALING CRITERIA*				TOTAL
	W	X	Y	Z	
A	3	0	0	0	3
B	1	2	3	0	6
C	1	0	0	1	2

* Impact on Criteria

high = 3
med. = 2
low = 1
none = 0

(3)

ALTERNATIVES	CRITERIA WEIGHTING				TOTAL
	W	X	Y	Z	
Weights	3	1	2	1	
A	3 x 3 9	0 x 1 0	0 x 2 0	0 x 1 0	9
B	1 x 3 3	2 x 1 2	3 x 2 6	0 x 1 0	12
C	1 x 3 3	0 x 1 0	0 x 2 0	1 x 1 1	4

Paired-Comparison Matrix

The paired-comparison matrix is simply a technique for systematically comparing every item to determine their relative ranking. In effect, it employs exactly the same approach as a round-robin tennis or basketball tournament. Each entry is tested against every other entry and an overall "winner" can be determined. In all comparison models, use a matrix which lists each alternative on both verticle and horizontal axes. Each pair should be compared only once. The "winner" of each match is recorded in the matrix in the appropriate space and the "score" of the number of wins is totaled and the candidates ranked accordingly.

Notice that this basic application assumes (or requires) that the alternatives have already been assessed and evaluated according to specific criteria and that an overall judgment is available. It can also be used to set priorities or formalize subjective value judgments (value issues, perceptions, political situations). It is also possible to use the paired-comparison method to compare each alternative with the other(s) with respect to every individual criteria that is applied. The criteria can, of course, be weighted as discussed earlier. When this method is applied, the scoring should be normalized between 0-1 by dividing each item total by the maximum total.

In some cases, there will be some criteria which are absolutely essential, while others merely desirable. Some systems call these "musts" or "critical" compared to "wants." To be eligible for further consideration, or ranking according to the secondary criteria, an alternative must first meet all the essential criteria. For example, a "must" factor in evaluating alternative summer job program proposals would be starting and completion dates for the programs. The best program in the world would not be acceptable if it could not be mounted until mid-August.

DECISION MATRIX	1	2	3	4	5	6	7	8	9	10	11	12	
1	■												1
2	■	■											2
3	■	■	■										3
4	■	■	■	■									4
5	■	■	■	■	■								5
6	■	■	■	■	■	■							6
7	■	■	■	■	■	■	■						7
8	■	■	■	■	■	■	■	■					8
9	■	■	■	■	■	■	■	■	■				9
10	■	■	■	■	■	■	■	■	■	■			10
11	■	■	■	■	■	■	■	■	■	■	■		11
12	■	■	■	■	■	■	■	■	■	■	■	■	12

	1	2	3	4	5	6	7	8	9	10	11	12
VERTICAL (spaces)												
HORIZONTAL (X's)												
TOTAL												
RANK ORDER												

1. List each project twice--once on horizontal line and once on corresponding vertical line.
2. Evaluate 1 against 2. If more important put "X" in box; if less important, leave blank. Repeat with each remaining number. Continue to next line; repeat.
3. Total X's across; enter in horizontal box. Total spaces down; enter in vertical box.
4. Add the two numbers from step 3. Largest number will be in Rank Order; smallest will be 12.

The criteria matrix can be a valuable tool to guide and inform the final decision, but it is only as good as the data which have been gathered, and the criteria which have been selected and weighted. Keep in mind that it is a scaling technique and, as such, is never completely precise even if it does use numbers. Is an alternative with a score of 23 significantly better than one with 22? Probably not. Look at both carefully; don't neglect critical thought and judgment.

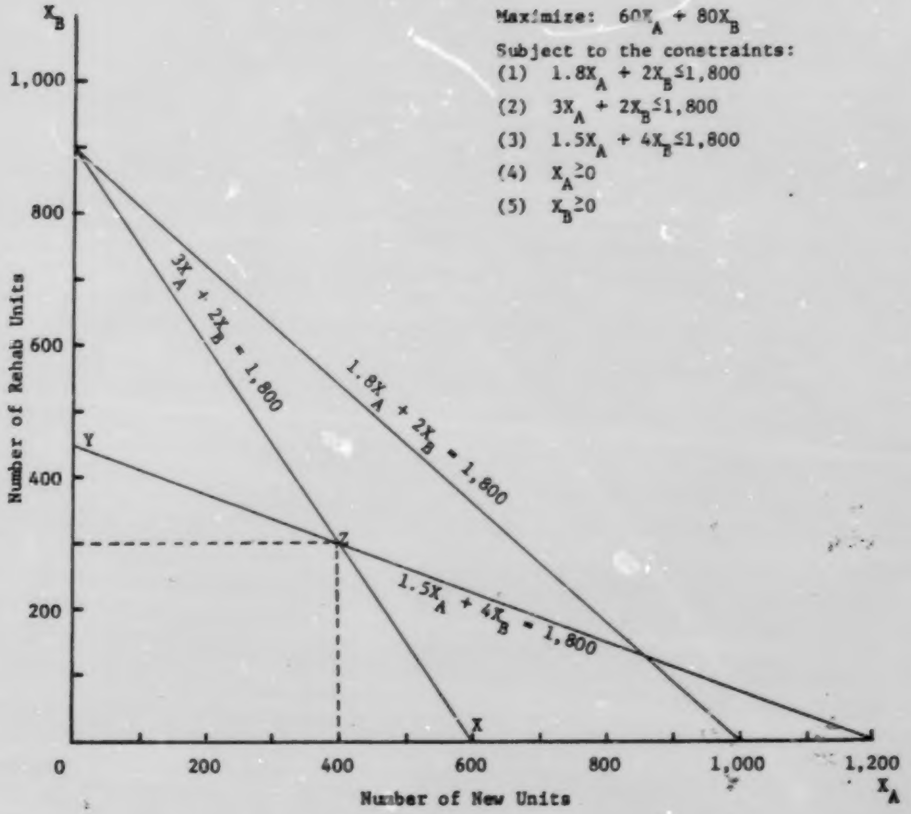
In many cases, the final selection may be a combination of alternatives, as the matrix suggests a new combination which combines strengths and minimizes weaknesses of the alternatives taken individually. It is also possible to construct a new matrix which rates combination strategies as independent alternatives.

OPERATIONS DECISIONS

At a somewhat "lower level" in the hierarchy of planning decisions are the techniques called operations decisions. Two such techniques are linear programming and queing theory. For example, after a matrix analysis had been applied and a decision made to use a strategy combining new housing and rehabilitation of existing units to upgrade housing stock, an operations decision to obtain the maximum mix of the two should still be made.

Linear Programming

Linear programming allows the manager to determine the "best" mix from several alternatives which are subject to specific constraints. To solve the linear program the manager writes each constraint and the desired alternative (most profit/least cost) in the form of algebraic equations. The equations are then solved simultaneously to provide the end result. A typical example would be to determine the best mix of new dwelling units and rehabilitated dwelling units given various constraints:



Maximize: $60X_A + 80X_B$

Subject to the constraints:

(1) $1.8X_A + 2X_B \leq 1,800$

(2) $3X_A + 2X_B \leq 1,800$

(3) $1.5X_A + 4X_B \leq 1,800$

(4) $X_A \geq 0$

(5) $X_B \geq 0$

The graphic solution of a linear programming problem.

Queing Theory

Queing theory is another tool which is most applicable when the more basic strategic decisions have already been made, or to assist in making judgments about options with reference to specific criteria (such as in estimated cost/benefits of specific approaches where time and waiting situations may be costly. Queuing theory is applicable to waiting-line situations, such as when several departments use a centrally located computer. When departments or items must wait for service, the delay represents a cost to the organization. Thus, there is a need to balance the costs of bottlenecks against the cost of equipment. Another example of the applicability of queuing theory is the determination of how many check-out stations are needed by a supermarket for busy periods without having out-of-work checkers during the slack periods.

SUMMARY

The urban manager at all levels will be making a variety of decisions--management decisions, policy decisions and planning decisions--as he/she progresses through the four stages of the strategic planning process.

At each level, and for each problem, there are qualitative and quantitative techniques to aid the urban manager in making more effective decisions. These techniques must be combined with substantive knowledge about the particular problem area.

PLANNING TECHNIQUE SUMMARY CHART

Technique	Appropriate Situations	Strengths	Limitations
Probability Analysis	Discreet events; Contingency Planning	Quantitative identification of likelihood of occurrance; identifies confidence levels (accuracy) for decision making	Depends on availability and accuracy of past performance data and identification of discreet events
Decision-Tree Analysis	Sequential events; decisions where one decision constrained by outcome of predecessor	Allows for interaction, combination of possible outcomes; identifies likelihood of occurrance, consequences (risks)	Depends on quality of probability estimates; identification of major decisions and events, accurate analysis of consequences; optimizes averages
Criteria Matrix	Comparison of 2 or more alternatives by common criteria	Simplicity; consideration of multiple alternatives; advance identification and discussion of decision criteria; flexibility adaptable to wide range or requirements; incorporates subjective factors (judgements)	Rankings and weights often subjective; each cell limited by accuracy of data evaluated, quality and relevance of criteria selected
Paired-Comparison	Comparison of 3 or more alternatives against each other	Simplicity, comprehensive comparison of all alternatives	Quality, accuracy of evaluation data used for each comparison; i.e. opinion, past results, probability estimates, etc. Quality of criteria

PLANNING TECHNIQUE SUMMARY CHART

Technique	Appropriate Situations	Strengths	Limitations
Linear Programming	Maximize/minimize appropriate mix of quantitative choices; quantified alternatives, quantified constraints. Implement broader "policy" or strategic decisions	Optimizes output, minimizes waste (efficiency) deals with multiple constraints; defines "best" solution if parameters correctly identified	Needs accurate quantified data (especially $ or production units); not appropriate to value judgements
Queing Theory	Compare alternatives if time, waiting-line situations involved; scheduling, situations, problems	Most efficient use of shared facilities,service smoother work flow, processing; eliminate bottlenecks	Applies only to lower level operations decisions; scheduling, trouble-shooting. Requires accurate flow chart or task breakdown
Force Field Analysis	Assessing situations with multiple "forces" in operation; developing new strategies	Rational approach to subjective situations; generation of new strategies; assessing potential of alternatives; determining research needs or gaps	"Pseudo-scientific" tool, must be kept in perspective; uses subjective judgements
Gantt Chart (See Module 6)	Scheduling program or project activities and time span; management control manpower loading situations	Simplicity, efficient visual display, task breakdown for span of project; more efficient use of staff, summarize data from level of effort charts	Doesn't indicate constraints, complex interactions of activities
Level of Effort Charts (See Module 6)	Display activity with respect to staff time; staff consultants with respect to activity time	Simplicity; efficient use of staff; visual display; identification of deviations from planned estimates	Doesn't indicate complex interactions of time/activitie i.e., conflicts for given hour days, weeks or monthly chart

PLANNING TECHNIQUE SUMMARY CHART

Technique	Appropriate Situations	Strengths	Limitations
Network Planning (See Module 6)	Discreet projects with identifiable start and finish; complex interactions among activities, events	Shows constraints, dependent relationships; indicates critical path for management control; more accurate estimates of potential timing problems	Requires accurate activity event breakdown; time estimates often subjective; sequence analysis can be faulty; complex networks can be visually confusing; no visual portrayal of elapsed time

STRATEGY/DECISION MAKING
SUGGESTED READINGS

BOOKS

Garn, Harvey A., et al. Models for Indicator Development: a Framework for Policy Analysis, Washington, DC, The Urban Institute, 1976.

PERIODICALS

Ives, B.D. "Decision Theory and the Practicing Manager," Business Horizons, June 1973.

Kabus, I. "You Can Bank on Uncertainty," Harvard Business Review, March 1976.

Tabaczuk, E. "CPM Called Most Misunderstood, Misapplied of Management Tools," Air Condition, Heat and Refrigeration, June 1973.

Tersine, R.J., and Riggs, W.E. "The Delphi Technique: A Long-Range Planning Tool," Business Horizons, April 1976.

STRATEGY/DECISION MAKING WORKSHOP (90 minutes)

INSTRUCTIONS

FIRST: Select one of the department objectives and use the force field model to analyze those forces which are likely to help and to hinder the accomplishment of the department objective.

SECOND: From the information obtained from the force field analysis, as a group, develop 3 strategies to reach the department objective by the end of the third year.

THIRD: Working as a group, identify no less than 4 criteria to be used in identifying the best possible strategy to reach the department objective.

FOURTH: Working as a group, use a criteria matrix to rank the strategies and to select a priority strategy.

EXERCISE

(1) Objective:____________________________________

FORCES FOR	FORCES AGAINST

(2) Strategies: 1.________________________________

2.________________________________

3.________________________________

(3) Criteria to be used in selecting the strategy:

1.____

2.____

3.____

4.____

(4) Criteria Matrix

	CRITERIA			
STRATEGIES	1	2	3	4

3 = HIGH impact on criteria
2 = MEDIUM impact on criteria
1 = LOW impact on criteria
0 = NO impact on criteria

MODULE 5

PROJECT DESIGN

Objectives: The objectives of this module are to: demonstrate the ability to develop a project evolving from the strategic planning process; appreciate the rationale for having a project design.

PROJECT DESIGN

Previous lectures have described the beginning stages of the strategic planning process. This lecture continues the process by describing the transition from the planning approach to the development of an implementing project. Following this will be a unit on adapting the plan for allocating resources. This unit on project design will cover:

- developing the paper plan
- the budget
- quantifying objectives

DEVELOPING THE PAPER PLAN

The specification of the plan is a crucial step in the planning process. For it is the project which is the mechanism for achieving broad objectives and implementing strategies. The elements of the plan developed for the project must demonstrate the same logical relationship to each other as the project does to the overall planning process. Maintenance of planning logic means that the project inputs, outputs, and objectives will be linked by the project strategy.

Reviewing the chain of planning logic, we note that it consists of broad objectives, project objectives, outputs and inputs which are linked by a series of action statements. These action statements are the department strategy, the project strategy, and the project activities.

PLANNING CHAIN OF LOGIC

All these elements must be linked together in a logical chain. The logical progression from supplying inputs to achieving the goal can be characterized as a series of "IF" statements. For example:

IF these inputs are provided, then the activities may occur.

IF these activities occur, then the outputs may result.

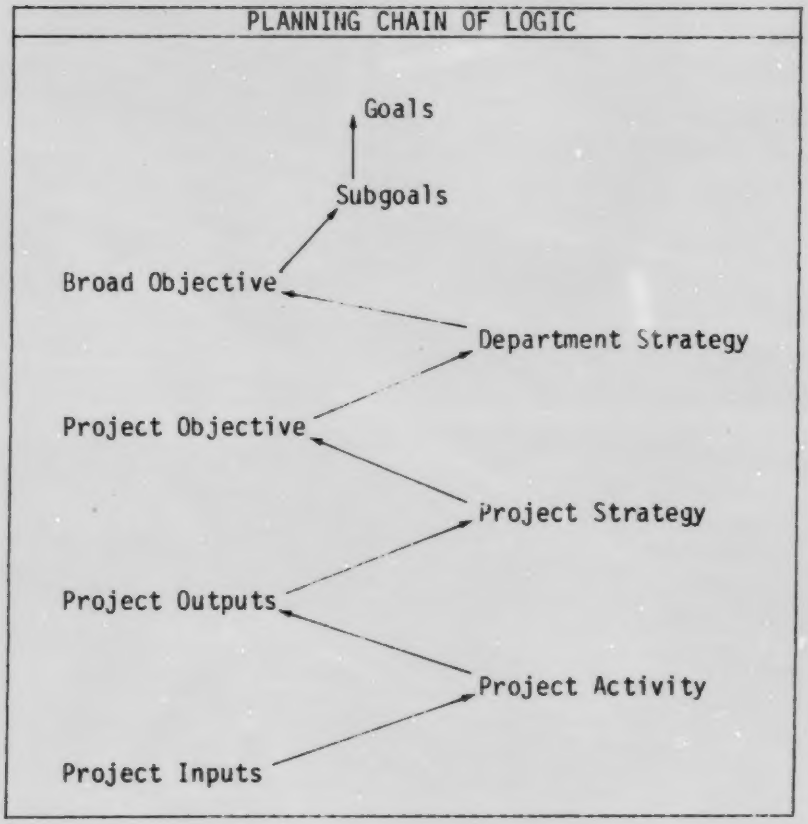
IF these outputs result, then the project strategy may be achieved.

IF the strategy is achieved, then the project objective may be achieved.

IF the project objective is achieved, then the department objective may be achieved.

IF the department objective is achieved, then the subgoals may be achieved.

IF the subgoals are achieved, then the goal may be achieved.



PLANNING CHAIN OF LOGIC

Goals
Subgoals
Broad Objective
Department Strategy
Project Objective
Project Strategy
Project Outputs
Project Activity
Project Inputs

USING THE PLAN

When a formal plan is being developed for submission to the chief executive officer, or to request federal funds, following this planning process is a must. Whenever a project is being developed which does not require submission, following the steps of this planning process reduces the chance of project failure, thus reducing your organization's risk of failure in meeting your objectives.

In addition, using planning logic to develop the specifications of the plan will insure that everyone--from the head of the organization to the lowest ranking member of the project--will have a clear understanding of what the project is supposed to do and how it will happen.

In order for a project to be selected to carry out a strategy, there is an assumption that the project would do something--e.g., place people in jobs, reduce high school dropout rates, lower the crime rate, etc. The specification of the plan identifies exactly what has to happen in order to place people in jobs, reduce the crime rate, etc.

COMPONENTS OF THE PAPER PLAN

PRELIMINARY PROJECT OBJECTIVE

The preliminary project objective sets the framework for the rest of the project design phase. Objectives at this level should be formulated by means of the same criteria used in the formulation of department objectives.

An objective should:

- specify the target group
- specify the content and degree of what is supposed to happen
- specify the time frame

Whereas the departmental objective might have identified school children as the target group, the initial project objectives might be directed toward 6th grade pupils. The initial objective should identify the number of potential persons either as an actual number or as a percent of the total target group. For example:

> By June 30, 1977, raise by 24 months the reading skill level of 75% of all 6th grade students in Our City, USA

WHAT:	raise the reading skill level
HOW MUCH:	by 24 months
WHO:	6th grade students
HOW MANY:	75%

This objective fulfills all the requirements of a good objective. However, it is considered a preliminary objective until it can be determined that the project can realistically accomplish this objective.

PROJECT STRATEGY

Once the intent of the project has been identified, the next step is to determine how the intent will be met. The previous objective could be implemented in a number of ways:

- changing method of instruction
- upgrading the remedial reading skills of all teachers
- hiring additional remedial reading teachers
- increasing the number of hours of reading instruction

The project strategy, like the higher level strategy, is an action statement. The strategy, however does not define the way something is to be done. Changing the method of instruction might result in: use of programmed learning text or rote drills practiced aloud by the entire class.

PROJECT OUTPUTS

Project outputs should be thought of as those results which need to happen in order for the project objective to be met. Some examples of project outputs are:

- number of prenatal examinations
- number of persons completing training
- number of dwelling units inhabited by persons previously living in dwellings which failed to meet code standard.

The number of persons served would not be a project output unless they received or did something which led toward the attainment of the project objective.

During the planning stage it is important to establish the logical relationship between project outputs and project objectives. The number of youths placed into permanent jobs is not a desired end product for a project having an objective of reducing the number of high school dropouts.

PROJECT ACTIVITIES

In order to get the number and kind of outputs desired, certain activities must occur. In a project where completion of training is a desired output (result), then possible activities would include: recruiting; testing; selecting; teaching; and counseling.

PROJECT INPUTS (RESOURCE REQUIREMENTS)

In order to have these activities the project would need to have resources (input): someone to do the recruiting, the testing, the selecting, the teaching, and the counseling. The project would need a certain kind of physical space and equipment. The project would probably need certain kinds of administrative support. Without these inputs, it is unlikely that the necessary activities will take place. Inputs are not money--they are what money will buy.

THE BUDGET

The project design, as specified, is likely to be unrealistic because no consideration has yet been given to the estimated cost. The first step is to determine approximate fixed costs. Such items as rent, utilities and staff (if already employed) are considered fixed since that cost exists regardless of the number of clients served. The second step is to identify the variable costs. Variable costs are those which vary directly with the number of clients. Meals served, dressing gowns, and books are examples of variable costs.

Once a preliminary budget has been developed, the manager may find that the budget necessary to maintain that level of activity is unreasonable. The next step would be to adjust the project design and the budget until they complement each other. It is frequently necessary to revise the budget and the project design several times before the two are complementary.

PROJECT OBJECTIVE (REVISED)

The last step in the specification of the plan is revising the project objective in conformance with the project design. The project objective must be specific in defining:

- what is to happen
- by how much
- to whom
- in what period of time

SUMMARY

The attention which is paid to the project design stage will be reflected in the operational part of the planning process. Frequently difficulties experienced in the operations stage are a direct result of poor planning during the project design stage. The project design communicates to all concerned what is supposed to happen. It allows others to understand how and why it will actually work. Therefore, this information should be used whenever funds for the project are being requested. Sloppy project design will result in endless crisis, and time spent dealing with crisis is time not available for management or planning.

PROJECT DESIGN WORKSHOP (90 Minutes)

INSTRUCTIONS

FIRST: Working as a group, develop a 1-3 year project to implement the priority strategy.

SECOND: Working as a group, identify: tentative project objectives; project strategy; project outputs; project activities; project inputs; and a revised objective for the department project. Finally, identify several criteria for success.

THIRD: Check yourself by asking the question: If the project works, will the problem be eliminated? Or not changed at all?

EXERCISE

Project (1-3 years) ______________________________

Tentative project objective ______________________________

Project strategy (how) ______________________________

Project outputs ______________________________
____
____

Project activities ______________________________
____
____

Project inputs (resource requirements) ______________________________
____

Revised objective ______________________________

Success criteria (how will you know the project worked?) ______________________________
____
____

MODULE 6

ALLOCATIONG RESOURCES

Objectives: The objectives of this module are to: demonstrate an ability to use budget and network techniques to allocate resources; identify advantages and disadvantages of major budgeting approaches.

ALLOCATING RESOURCES

Now that the project design has been formulated, detailed plans must be made for managing the daily operations of the project. At this stage in the strategic planning process the manager is concerned with developing mechanisms for allocating and managing both time/people resources and fiscal resources. This module discusses the detailed work program, the GANTT chart, level of effort charts, and network planning for allocating and managing time/people resources. Techniques for allocating and managing fiscal resources will include the line item budget, the program budget, the combination budget, and zero base budgeting.

These tools and techniques for allocating and managing resources are useful at all organizational levels:

- citywide
- department
- subunit
- program
- project

The process of managing already allocated resources with these tools and techniques allows the manager to determine the implications of changing priorities and/or rescheduling activities or assignments. For example: What are the implications for the Manpower Program if the manager reassigns two curriculum specialists to help with recruiting before the training curriculums are completed?

TIME RESOURCES

DETAILED WORK PROGRAM

ACTIVITY ANALYSIS

The first step in time management is to identify the activities which should be completed by the project. Once the activities for the project have been identified, preparation of the activity analysis will follow naturally.

An activity analysis is simply a list of all the activities that the project staff must perform during a given period of time. It can be very lengthy if every activity is detailed, or it can be quite short if only major activities for a long period of time are included.

For example, an overall activity analysis for a daycare center might look like this:

1. Start-Up Activities
2. Registration of Children
3. Educational Activities
4. Recreational Activities
5. Nutritional and Health Activities
6. Administration

An activity analysis is as detailed as needed. There are no hard and fast rules about detail--whatever the manager finds useful should be included. All the project activities should be listed on a very broad level and assigned by subactivities to individual staff members. For example, a broad level activity analysis for all activities of the daycare center would look like the one detailed above. This is a sketchy outline of the major activities. The manager might also subdivide each major activity. Major activity "1" as above, might look like this when subdivided into subactivities:

1. Start-Up Activities

   1.1 Hire staff
   1.2 Obtain space and supplies
   1.3 Train staff
   1.4 Outreach for children

The usefulness of the activity analysis is directly related to its accuracy. As situations change, as emergencies arise, and as more information is obtained about the nature of the activity, the analysis will change. Subactivities may change quite often, but the basic activities remain intact unless altered by the decision makers.

THE WORK PROGRAM

The activity analysis forms the basis of the work program--one of the simplest techniques that can be used to adapt the paper plan for management purposes. A work program is simply a graphic representation of project inputs, outputs, and activities according to time and staff, thus organizing the project both for the year and on a week-to-week basis. A work program is set up differently for different purposes and is usually changed as new information becomes available. It is also a tool for evaluating the progress of the staff, and for making decisions to allocate staff and resources to the particular activities.

For a project within the urban management context, a work program might be set up with such categories as:

- activity/subactivity
- duration of activity
- beginning date

- end date
- staff assignment
- person days
- output (product)

and shown graphically as follows:

ACTIVITY	DURATION	BEGIN. DATE	END DATE	STAFF	PERSON DAYS	OUTPUT
Activity 1.0						
1.1						
1.2						
Activity 2.0						
Activity 3.0						

The deadline for the output or the end of the activity should be estimated by the planner and the project director. From this end date, the planner counts backwards to estimate the amount of time needed for each subactivity until the date has been reached on which the activity must begin. For administrative and managerial activities, the entire project staff is the best source for deciding beginning and end dates. The estimated duration of each subactivity and activity, along with the beginning and end dates, should be entered in the work program chart.

With the activities and time limits listed on the work program, the project director and the planner can begin to assign work to individual staff members. It is necessary to enter all assignments--even those which are contracted out--on the work program. If the project director does not have enough staff to complete all the tasks in the time period necessary (which should not be the case if the paper plan has been adequately prepared) the dates must either be reshuffled or the output lowered. In actuality, the process of assigning particular dates to each subactivity helps balance staff resources with time and money.

THE GANTT CHART

A Gantt chart, or time line, is another technique that can be used in conjunction with the work program to obtain an overview of the project activities for a given time period. The time line can also show simple relationships among activities. It is a graphic representation of activities against the time in which they will be performed.

To prepare a time line, place the activity analysis next to a chart depicting the months (or weeks or days) allotted to the activities. (When a project is beginning its yearly funding phase, the time line will most likely be for the year.) Mark the end date and the beginning date of each activity and draw a line between the two to indicate duration of that activity. A completed time line for recreational activities for a daycare center might look like this:

ACTIVITY	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.0 Recreational Activities	■	■	■	■	■	■	■	■	■	■	■	■
1.1 Planning	■	■	■	■								
1.2 Obtain supplies		■	■	■								
1.3 Conduct rec. Activities					■	■	■	■	■	■	■	■

The manager can then determine at a glance when particular activities should begin and end. The time line can also alert the project staff to peak work periods, and can facilitate the reshuffling of staff assignments if the activity is too unevenly spaced. The completed time line should include all activities to be performed during the year.

LEVEL OF EFFORT CHARTS

A slightly more sophisticated technique in the work program is the level of effort chart. There are actually three types of level of effort charts. Each gives a different type of control and forms an integral relationship with the work program and the Gantt chart.

ACTIVITY/TIME CHART

The first type is the activity/time chart which estimates the amount of time each activity will take in person-days or person-months, over a given period of time.

Activity	J	F	M	A	M	J	J	A	S	O	N	D	Total Days/Months
TOTAL													

There are five steps to preparing this chart:

1. List the major activity in the activity analysis.
2. Compute the total amount of person-time available from the staff.
3. Apportion the person-time per month.
4. Allocate the person-time among activities for the total year.
5. Total the person-time for each activity over twelve months.

STAFF/ACTIVITY CHARTS

The second type is the staff/activity chart which divides among staff members the person-time required to do each task. This chart follows the activity/time chart, because it is based on the person-time that has been allocated to each activity. The staff/activity chart involves assigning staff members and time to activities.

ACTIVITY	STAFF 1	STAFF 2	STAFF 3	STAFF 4	TOTAL PERSON-TIME PER ACTIVITY
1.0					
2.0					
3.0					
TOTAL					

There are four steps to preparing this chart:

1. List the major activity in the activity analysis.
2. List the staff members and their total person-time.
3. Compute the total time required for each activity.
4. Divide the person-time for each activity among the staff.

CONSULTANTS/STAFF/TIME CHARTS

The third type is the staff/time chart which shows the time expected to be put in by staff and consultants (or other temporary persons).

STAFF/CONSULTANT	J	F	M	A	M	J	J	A	S	O	N	D
TOTAL												

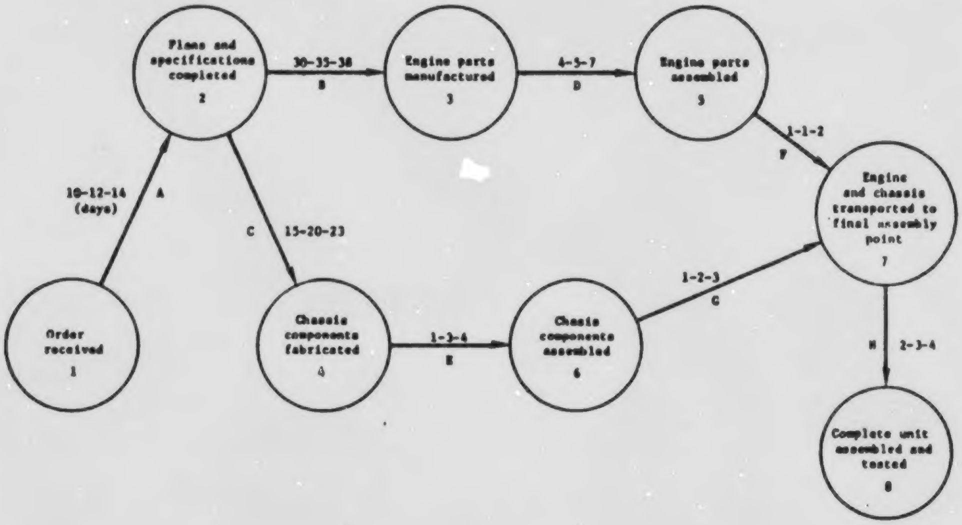
The steps to preparing this chart are:

1. List the total person-time to be expended each month.
2. List the staff (and consultant) and their total person-time.
3. Divide the person-time per month per person.

NETWORK PLANNING

Another technique for managing time is through the use of PERT (Planning Evaluation Review Technique). By utilizing a PERT Network, a manager can visually identify not only simultaneous activities, but also those activities which are dependent upon completion of a prior activity. The ability to graphically portray a dependent relationship is lacking in the work program previously described.

A simplified PERT Network is shown below.


Plans and specifications completed
2
30-35-38
B
Engine parts manufactured
3
4-5-7
D
Engine parts assembled
5
1-1-2
F
10-12-14 (days)
A
C
15-20-23
Engine and chassis transported to final assembly point
7
1-2-3
G
Order received
1
Chassis components fabricated
4
1-3-4
E
Chassis components assembled
6
H
2-3-4
Complete unit assembled and tested
8

Each circle represents an action step in the flow process. Between the steps is an indication of the least, average, most time that it will take to get from one step to another. If the most possible time were taken, the completed chasis will be ready to be transported in 30 days; however, the best possible time will be 35 days for the engine parts to be ready for transport.

FISCAL RESOURCES

LINE ITEM BUDGET

The line item budget is the traditional method of allocating financial resources and the one most frequently used by local government. The line item budget displays costs by categories, e.g., salaries, fringe benefits, postage, printing, and furniture and fixtures. This type of budget identifies the categories of inputs but does not provide other kinds of financial information necessary to the planning process, such as the cost of specific portions of a program or project, and what the money is buying.

PROGRAM BUDGET

The program budget is another method of allocating financial resources. The program budget displays costs by program. In the program budget, each budget item includes all costs related to that progam item regardless of which department or agency is conducting the work. On a city or county level the program budget might include such items as: Person Safety; Intellectual/Personal Enrichment; and Economic Satisfaction. On an agency or department level a program budget might include such items as: Outreach and Recruitment; Selection/Testing; and Counseling.

The program budget is unsatisfactory for the same reason as the line item budget in that it provides only a partial picture. A traditional program budget may cover only a one year block of time or several years. Further, the program budget, however useful to the manager, is not at all useful to the budget office which expects a budget to follow a line item format.

COMBINATION BUDGET

Yet another approach is to combine the line item with the program budget. The combined approach provides more information to both the manager and the budget office than either one by itself. Using a training program example, a combined budget would list the activities on one axis and the line items across the other axis.

	Line Item	1	2	3	4	5	6	7
		Rent	Phone	Insur.	Salary	Fringe	Consul.	Travel
Outreach/recruitment	P1							
Testing/selection	P2							
Counseling	P3							
Classroom	P4							
Work experience	P5							
Job placement	P6							
Administration	P7							

The combination budget, with minor modification, can also be used to monitor planned vs. actual expenditures on a monthly, quarterly or annual basis.

Reporting Period________________

PROGRAM	LINE 1		LINE 2		LINE 3		LINE 4		TOTAL	
	P	A	P	A	P	A	P	A	P	A
P1										
P2										
P3										
P4										
TOTAL										

This format enables the manager to project the cost for a particular cell (the point at which the two axes intersect) and to compare the actual with the projected cost. Thus, if there is overspending or underspending, the manager will know at a glance where the irregularity is.

When using the combination budget the manager first fills in all the known cells (for projected expenses). The missing cells can then be filled in by weighting the programs and applying those weights to the total for each particular line item.

Outreach/recruitment	2%
Testing/selection	3%
Counseling	10%
Work experience	30%
Classroom	20%
Job placement	20%
Administration	5%
Total	100%

Each value is then multiplied against each line item amount to determine the projected dollar cost for each activity.

PROGRAM	WEIGHT	SALARY	RENT	TELEPHONE	CONSULTANT	TOTAL
Outreach	(.02)	.02a	.02b	.02c	.02d	.02e
Testing	(.03)	.03a				
Counsel	(.10)	.10a				
Work	(.30)	.30a				
Class	(.30)	.30a				
Jobs	(.20)	.20a				
Admin.	(.05)	.05a				
	TOTAL	a	b	c	d	$\sum$ (a+b+c+d)

To allocate limited resources, a budget procedure must answer these questions:

- Where and how can we most effectively spend our money?
- How much money should we spend?

In answering these two questions most organizations tend to use the current income and expense levels as an established base. They then merely review changes (increases or decreases) desired in the current operating budget. Thus the manager fails to assess the efficiency and effectiveness of the current operation. In addition, the manager fails to consider the possibility of reducing current operations in favor of changed priorities.

ZERO BASE BUDGETING

Zero base budgeting responds to this need by requiring justification of every dollar of the organization's projected expenditures. It puts previously authorized expenditures on an equal footing with requests for new funds in terms of the scrutiny received. At the heart of ZBB is the decision package which requires managers at all levels in the organization to rank the activities of their department in order of importance. It also requires managers to generate alternatives to their current mix of resources and outputs as well as identifying the consequences of each alternative.

SUMMARY

Using these various tools and techniques will enhance the urban manager's ability to improve his/her management process. This means using these tools every day. This means assigning someone the responsibility for continually updating and revising timelines, networks, level of effort charts, and budgets. Just as the strategic planning process is not static, neither is the process for managing (short/constrained) resources.

ALLOCATING RESOURCES
SUGGESTED READINGS

BOOKS

Phyrr, Peter A. Zero Base Budgeting: A Practical Management Tool for Evaluating Expenses, New York, John Wiley & Sons, 1973.

PERIODICALS

________________. "Management of Objectives," Harvard Business Review, Vol. 54, No. 3.

________________. "Management Techniques Can Aid Government, Says Ash," Industrial World, January 27, 1975.

________________. "Incremental Budgeting," Management Accounting, May, 1976.

________________. "Presenting and Tracking A Department Budget," Management World, June 1975.

Lorange, P., and Morton, M.S. "Framework for Management Control Systems," Sloan Management Review, Fall 1974.

ALLOCATING RESOURCES WORKSHOP
PART I - TIME MANAGEMENT (60 MINUTES)

INSTRUCTIONS

FIRST: Working as a group, develop a work program for your department's project (Project Design Workshop).

SECOND: Working as a group, list the activities, their duration, the beginning and end dates, identify staff to be responsible for the activity, the anticipated person-weeks and the anticipated output for the task.

THIRD: Working as a group, develop a simplified PERT Network. Use the tasks identified in the SECOND instruction. If needed, refer to the Network Planning reading.

EXERCISE

Project______________________________

(1)

ACTIVITY	BEG. DATE	END DATE	DURATION	STAFF ASSIGNED	PERSON WEEKS	OUTPUT

(2) PERT Network

ALLOCATING RESOURCES WORKSHOP
PART II - FISCAL MANAGEMENT (60 minutes)

INSTRUCTIONS

FIRST: Working as a group, prepare an estimated combination budget for your department's project (from Project Design Workshop).

SECOND: Working as a group, list the project activities (from Project Design Workshop) and then identify line items appropriate for that project.

THIRD: Working as a group, project total expenditures for the period covered and distribute across the cells.

EXERCISE

Project____________________________ Period Covered______________

ACTIVITY					TOTAL

MODULE 7

PLANNING FOR EVALUATION

Objectives: The objectives of this module are to: become aware of the ongoing use of evaluation information; appreciate the role of evaluation in the strategic planning process; demonstrate the ability to identify indicators of project/program success; demonstrate the ability to develop an evaluation framework.

PLANNING FOR EVALUATION

FUNCTIONS OF EVALUATION

A PLANNING TOOL

Planning is more than having organization and analysis information. Planning is a risk-taking, decision-making process. Planning decisions are risk decisions because present resources are committed to an uncertain future. Because of the complexities of human activity, it is not possible to know all possible effects of a decision.

There will never be a perfect decision--only alternative decisions. There are never wrong decisions--only better decisions. It is futile to try to eliminate all risks, but with evaluation information the urban manager has an opportunity to reduce the risk associated with management decision making.

Through evaluation the manager has an instrument for creating change. Information derived through evaluation may lead to changes in: the mix of projects; the process of decision making; the systems developed; and the emphasis placed on various activities.

Information derived from evaluation efforts allows replanning to take place. Replanning takes place on an ongoing basis and allows for a re-examination of the initial planning effort. During replanning, objectives are examined in light of additional information. Perhaps objectives will merely be modified (scope), or perhaps current objectives will be replaced by new objectives, formulated to respond to changing conditions. Current strategy is also assessed to determine its applicability in a changing environment. During replanning, evaluation information provides the manager with a basis for changing priorities related to the project design and/or the project mix.

A MANAGEMENT TOOL

Evaluation is an organized way of providing information for local decision making. There are many management decisions to be made throughout the strategic planning process. For example, information is needed to improve the allocation of resources or determine staff training needs. Further, by providing feedback, evaluation provides a way for project staff to be accountable to the community, the contract and the urban manager.

The quality of decisions depends on the manager's ability to identify alternatives and to make sound judgments about the validity of those alternatives. Making sound judgments requires having a systematic way of defining data needs, collecting data, analyzing data and making informed judgments based on that data.

Evaluation performs the same function for management that audit and control do for budgeting, and compliance checks do for administration. Evaluation is a step toward developing a process for reaching those decisions which will increase public confidence in local government. And, in so doing, evaluation will help secure support and funding for well-developed programs.

EVALUATION DECISION POINTS

Insuring that the organization is heading in the desired direction can be one of the most important functions of evaluation. As the organization goes through the various stages of the strategic planning process, evaluation questions provide a guide for insuring the right direction and internal consistency.

After problem analysis has been completed, questions such as:

- Have we identified the problems we should deal with?
- Have we distinguished between symptoms and causes?

should receive YES answers before proceeding to the formulation of goals and objectives. Once goals and objectives have been formulated, questions such as:

- Does the objective have a measurable end product?
- Is the identified target group the same one that has the problem?
- Do the objectives relate to the problem?

should be answered YES before identifying a strategy. A YES answer to the question:

- Does the strategy impact on the cause or the symptom?

is required prior to an identification of projects to implement the strategy.

Once projects have been identified and plans drawn up for implementation, a YES answer should be the response to such questions as:

- Is there internal consistency with the goals and objectives?
- Does the design carry out the strategy?

- Have data needs been identified?
- Does each project have measurable objectives and defined outputs?

If NO is the answer, then the entire process should be re-thought before going on to implementation. Following implementation, evaluation questions such as:

- Are all events and activities occuring as scheduled?
- Are all outputs and milestones going as scheduled?
- What has changed in the problem situation?
- Did your efforts make any difference or have an impact on the goals? objectives? problem?

should receive a definitive YES.

The sequence of the evaluation decision points in the strategic planning process and the interative nature of the sequence can be seen in the diagram on the following page.

In addition to being an iterative process, the evaluation decision points flow process should also be viewed as a "go/no-go" process. Whenever an evaluation question receives either a negative response or a response indicating that there is no answer, the urban manager should not go to the next step in the process. Should the urban manager choose to go ahead in spite of the lack of a proper response, then the manager is building failure into the strategic planning process.

WHEN NOT TO EVALUATE

As noted, evaluation can fulfill a variety of functions for the urban manager. But evaluation for local management decision making should NOT be performed in some instances.

There should be NO evaluation where there is lack of definition in terms of the problem being addressed, the type of intervention, the outcome of the intervention or the expected impact.

There should be NO evaluation in the absence of clear logic in the sense of the assumptions linking expenditure of resources to the outcome expected from the intervention, or when the anticipated outcome is not specified or understood clearly enough to be tested.

There should be NO evaluation when there is lack of management, i.e., when those in charge lack the motivation, understanding, ability or authority to act on evaluation results. The urban manager should understand that, because scarce resources must be allocated in order to perform evaluation, these resources can

GUIDE QUESTIONS DURING THE PLANNING PROCESS

*Have we identified the problems we should deal with?

*Have we distinguished between symptoms and causes?

*Does the objective have a measurable end product?

*Is the identified target group the same one that has the problem?

*Do the objectives relate to the problem?

*Does the strategy impact on the cause or the symptom?

*Is there internal consistency with the goals and objectives?

*Does the design carry out the strategy?

*Have data needs been identified?

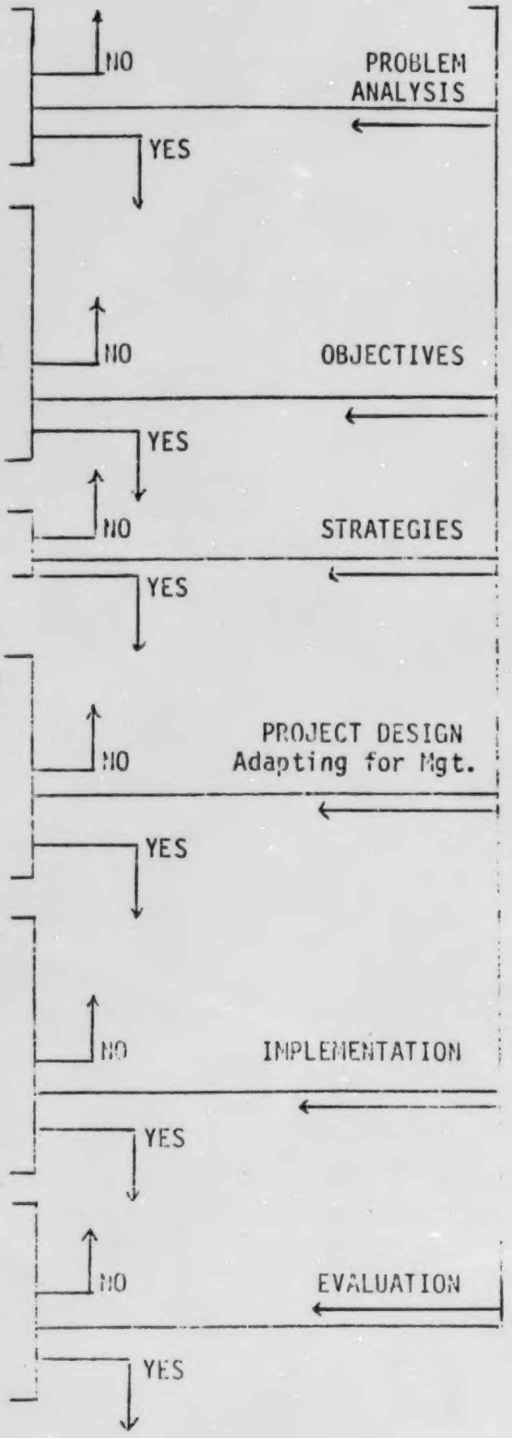
*Does the project have a measurable output?

*Are all events and activities occurring as scheduled?

*Are all outputs and milestones going as scheduled?

*What has changed in the problem situation?

*Did your efforts make any difference or have an impact on the goals? objectives? problem?


NO
PROBLEM ANALYSIS
YES
NO
OBJECTIVES
YES
NO
STRATEGIES
YES
NO
PROJECT DESIGN Adapting for Mgt.
YES
NO
IMPLEMENTATION
YES
NO
EVALUATION
YES

be put to better use than in the situations identified. It may, however, be necessary even in these instances to perform evaluation to fulfill requirements imposed by the granting agency.

TARGETS FOR EVALUATION

Evaluation can also provide an orderly process for assessing various processes and systems within the organization. Some possible targets for evaluation efforts include:

- Process(es)

  The process has to do with the way in which things happen. A variety of processes exist within each organization. These include: the planning process; the decision-making process; the evalution process; and the communication process.

- Systems

  The systems are established to enhance the capability of the organization. These include: the information system, the management system; the procurement system; the personnel system; and the transportation system.

- Operations

  Operations are the activities the organization performs and the projects it undertakes to accomplish its goals and objectives. An evaluation of the operations aspect might include: accomplishment of objectives; efficiency and effectiveness.

KINDS OF EVALUATION

There are many kinds of evaluation. Market research, cost/benefit analysis, experimental design, and operations research are all forms of evaluation in that they are ways of gathering information for decision purposes. However, they are differentiated by the decision situation they serve, the settings in which the decisions are made, and the level of precision needed. Each method of evaluation was developed for a specific context. For example, systems analysis was developed for the military, and experimental design was developed to make decisions about the relative merits of agricultural products.

The urban manager must be aware of the different types of evaluation and the different uses made of evaluation in order to select the most appropriate form to meet local needs. Despite functional differences, almost all departments and agencies must answer three questions concerning the programs they evaluate:

- Is the program effective?
- Would another program or modification of an existing one be more effective?
- Which delivery mechanism is most efficient?

The most widely used types of evaluations are those which help to answer these questions.

PERFORMANCE EVALUATION

Performance evaluation is concerned with how well projects/activities are progressing in their work programs. It is concerned with the nature of the activities rather than their usefulness or appropriateness. Performance evaluation is concerned with the input and output levels as opposed to the project objective and poses several questions:

- Are the outputs as planned and on schedule?
- Are the intended participants/beneficiaries being served?
- Are expenditures as planned?

Data to answer these questions is collected by monitoring. "Monitoring" is a process of gathering routine information on a regular basis. In contrast to monitoring, evaluation is a much broader concept which involves not only monitoring, but also the collection of information on a special-purpose basis.

Under the umbrella of performance evaluation, one can also pose questions regarding program efficiency.

- What is the average cost per person served?
- How do administrative costs compare with the costs of service delivery activities?

It is also possible to study quality if the standards of quality can be determined in advance. It should be noted that performance evaluation always includes an implicit "Why?" If a project is behind schedule, the decision maker needs to know why. If a subunit is being operated inefficiently, the urban manager needs to know why.

Because resources are limited, the urban manager wants to know about the effectiveness of each dollar spent. Useful cost analysis is dependent on a financial information system which identifies costs of providing various types of services and serving various target groups. Cost-effectiveness analysis can be computed in terms of cost comparisons which combine cost-effectiveness measures with cost information based on unit costs for various activities.

Costs can be examined and analyzed in many different degrees of detail, depending on the availability of data and the uses to be made of the analysis. Information on costs by activity is useful for operating purposes because it indicates in general terms the distribution of resources in relation to objectives, to plans, and the total number of persons served. Examples of basic cost comparisons include:

- cost ratios, e.g., administrative costs : total cost
- average/unit cost relationships
- average cost comparisons, e.g., cost effectiveness of various strategies

These comparisons attempt to estimate the relationship between outcomes and the cost of achieving those outcomes. Cost measures can be expressed as a ratio or index or in terms of the dollars invested per individual served or incidence of service provided. Cost-effectiveness measures will aid in making decisions to achieve the optimum allocation of available resources.

IMPACT EVALUATION

Impact evaluation attempts to measure the extent of net change (institutional/community/individual) brought about by the program. This implies a relative measure where changes and achievement are measured in relation to the achievements and changes which might have occurred without the program.

Impact evaluation focuses on answering the question, What difference did it make?" and attempts to assess not only the intended consequences (objectives) but also the unintended consequences. To say that impact evaluation focuses on the extent to which the project activity objective is realized is an oversimplification, because there is also an implicit commitment to examine the adequacy with which an objective has been formulated. Sometimes a project/activity objective is inappropriate as stated--either in relation to the nature of the project or in relation to the overall objectives. Sometimes the objective does not reflect the real purpose (as in the case of projects which exist for purely political reasons.)

PLANNING SUPPORT

Planning support evaluation is concerned with providing the data to support planning efforts. It most often includes collecting and analyzing such data as: demographic; labor market; population trends; and marketing trends. A health planner might need population trends, mortality and morbidity tables, and communicable disease data as well as data on current facilities and usage. Whereas, a physical planner might need population trends, land use data, contour maps to identify slope of elevation (it has been found that the steeper the slope the slower the rate of increase in population) [1] and special market studies. Or planning support evaluation might include an assessment of planning and results in similar localities.

PROCESS

Process evaluation is concerned with the way things happen and why. This includes an analysis of key actors, key events, key problems and their solutions. [2]

PROBLEMS AND CONSTRAINTS

POLITICAL

Political considerations include not only partisan politics in the form of local, state and federal elected officials but also the local ambiance. Such things as inter-/intra-organizational "turf" prerogatives are part of the political picture. Additional political considerations involve legislated mandates either in terms of applicable regulations concerning the use of funds or in terms of the intended direction of the organization.

TIME FRAMES

Time, or the lack of it, is a constant and critical constraint. This is especially true when an in-depth analysis is deemed desirable. Evaluation studies must be coordinated with the citywide budget process, election time frames, and proposal development.

LIMITED RESOURCES

In addition to being cognizant of built-in time frames, the manager must recognize the existence of scarce resources. The

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1. Based on unpublished research done by Marge McCann, Department of Planning, City of Philadelphia.
2. An example of process evaluation is A TALE OF THREE CITIES, a study of three model cities programs which had been undertaken by Marshall Kaplan Gans and Kahn at the behest of the U.S. Department of Housing and Urban Development.

frequency, scope and content of the evaluation process will be highly dependent on available money, available staff, and available time (work mix). This is true whether the evaluation staff is full-time or part-time.

CONFLICT IN DESIRED SCOPE/PRECISION

There must be a compromise between management needs and staff desires. All too frequently the manager requests information which can be gained through a "quick-and-dirty" study. The staff person feels that a quick-and-dirty is not only inappropriate but that an in-depth study would yield information more useful to the manager. Frequently, the staff person is scientifically inclined and would hope that all management decisions wait until scientific studies (e.g., random samples, matched pairs, panels) are completed.

STATE OF THE ART IN METHODOLOGY

Studies of social programs lack scientific preciseness because social variables cannot be controlled the same way as physical scientists control laboratory experiments. The major constraint is that the effects of social programs are influenced by the environment as a whole. Additionally, because the data is imperfect the tests and techniques which might otherwise be employed are not readily usable.

PREPARING FOR EVALUATION

The evaluation process can take several forms. On the one hand, there may be a sole person who develops objectives, lists criteria, and develops survey instruments without any input from the outside world. This person then announces, after a thoughtful investigation, that everything is wrong and must be discarded. An alternative to this is the Evaluation Meeting (or series of meetings). The evaluation meeting allows an opportunity for those parties having a vested interest in the outcome to agree in advance as to what should be evaluated, in what depth, and with what criteria.

Participants to an evaluation meeting should include: the person who developed the project; the person who will be managing the project; a representative from the citizen group (or a representative from each of several citizen groups); and, if appropriate, a representative from the client group.

These individuals have the responsibility for first developing criteria for the selection of targets for evaluation. After the criteria has been developed, potential targets are identified and matched against the criteria. Once the specific targets have been identified, the participants then reach a decision as to which target should be evaluated in depth and which could receive a superficial evaluation. This decision might be based on the same criteria (for selecting targts) or it might be appropriate to develop new criteria.

The participants to an evaluation meeting would then have the responsibility for identifying the criteria for success, especially for those projects to be evaluated in depth.

It is unlikely that the evaluation meeting will be a single meeting. It is more likely to be several meetings over a period of time with each representative seeking approval and concurrence from their constituents. The manager may find it impossible for all the key actors to meet together. In this case, the manager needs to meet separately with all the key actors at the completion of each step. The manager then insures that the results of each meeting are made available to all the key actors.

Having individual meetings does lengthen planning for the evaluation process. However, it insures that the key actors have "bought into" the program and have a vested interest in its success. It also insures that all the participants to the process will be looking for the same indicators for success. In addition, the participants will provide a base of support for the manager.

ESTABLISH PROCEDURE

Setting priorities is a process of selecting what to evaluate. However, this does not necessarily mean excluding any projects, programs or decisions from the evaluation process. Rather it implies that some decisions will be given early attention or that evaluation of some projects will be more rigorous than of others.

Setting priorities requires a procedure in which the whole range of decision situations is narrowed down to a reasonable number to be evaluated. There are many procedures for setting priorities. The exact process used is less important than insuring that there is a process for determining evaluation priorities.

No manager should expect staff to perform an in-depth evaluation either of each activity or at each level of organizational functioning. Some activities should receive a comprehensive evaluation, others need receive only a quick-and-dirty evaluation, and some need not receive any evaluation at all.

Evaluation decisions which will impact on the entire organization might be made based on the following criteria:

- o how will this decision affect the overall goal?
- o is the decision likely to be influenced by evaluation input?

- is this a decision which will influence future or recurring decisions?
- does hard data exist to help make this decision--if not, is it available within a reasonable cost and time frame?

Evaluation decisions concerning whether or not to evaluate a project/activity might well be based on these criteria:

- is this project going to be faced with important decisions in this fiscal period?
- are any changes likely to be made in the project as a result of evaluation information?
- how does the expected impact of this project compare with other projects relative to cost, people served, and potential for institutional change?
- how does this project compare in terms of visibility?

The following is an example of using criteria to set priorities:

> The XYZ Manpower Agency is currently assessing its evaluation efforts for the coming fiscal year. The XYZ Agency has several components and each component has at least one project. The key actors are interested in having a substantial evaluation effort. However, the lack of adequate funds imposes a severe constraint. At a meeting, the following matrix was developed.

PROJECTS	C1	C2	C3	C4	C5
Urban League					
A Woman's Opportunity					
Vocational School Board					
Joint Labor Council					
Prison					

Note that all projects are listed and compared against the predetermined criteria. The use of predetermined criteria is a very effective technique for avoiding "favorite" fights.

IDENTIFY USERS

Evaluations should be designed to be responsive to the needs of the decision makers. There is no way to insure responsiveness unless this rule is followed:

> Always involve in the decision of what to evaluate those decision makers who will be using the evaluation.

Who are the decision makers? Although this varies from locality to locality, there are two kinds of people who should be involved. The first type are those who will actually make the decisions--administrators, project managers, city officials. The second group includes those who do not make decisions but who influence them--staff, citizen groups.

At the same time the decision situation is being identified, it is necessary to identify the user of the information. The user should be able to identify, in advance of the time of the decision:

- the frequency of the need
- the format the information should be in
- the scope/depth of the information

IDENTIFY DECISION SITUATION

(1) Agencywide decisions

(2) Program areas

    (a) Priority program

    (b) Priority decisions within the program

(3) Priority projects within each program

    (a) Priority project

    (b) Priority decisions within each selected project

LEVEL	SAMPLE DECISION	EVALUATION INPUT
Agency	Planning process Overall strategy	Evaluation of process Priorities for Evaluation
Component	Reprogramming	Alternative use of funds Strategy-program objectives Evaluation of previous plans for competence and internal consistency Strategies for selection of projects
Project	Contract negotiations	Defining objectives, reporting requirements, evaluation design
	Project operations	Monitoring performance against planned outputs Client impact Refunding

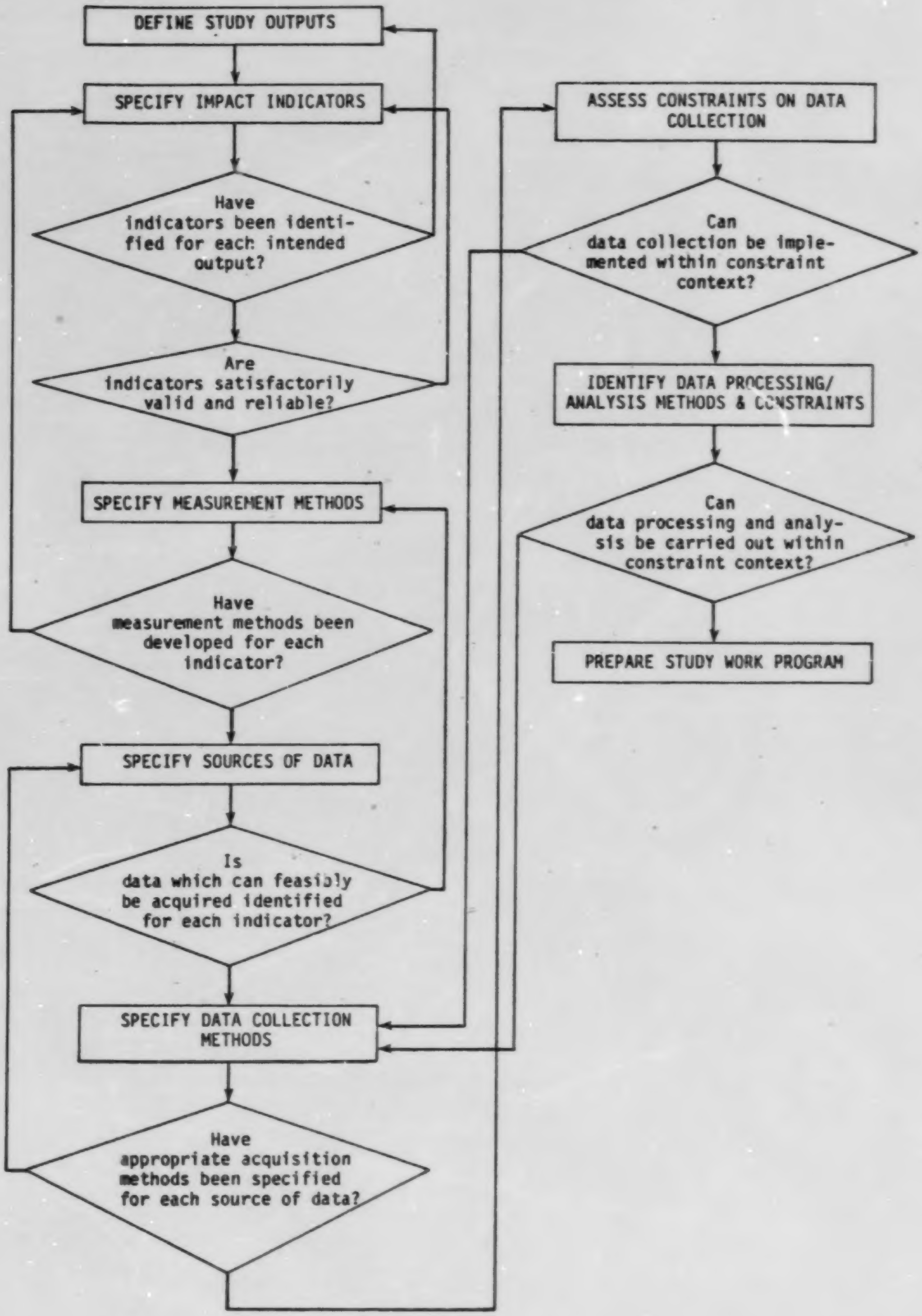
When identifying decision situations include only those on which evaluation results are likely to have an influence. Include policy decisions, planning decisions and management decisions (module 3, Strategy/Decision Making). It is not appropriate or necessary to include every conceivable decision not is it necessary or appropriate to include those decisions which have, in a sense, already been made.

IDENTIFY INFORMATION NEED

After the decision situation has been identified, the next step is to identify the specific kinds of information necessary for that particular decision situation. It would not be unusual for the same information needs to apply to several decision situations at the same or various levels within the organization.

IDENTIFY EVALUATION PROCESS

Once these priority targets for evaluation efforts have been identified, a process must be developed to do the evaluation. The process can be defined by means of a sophisticated PERT chart or a simple flow diagram. For example:


DEFINE STUDY OUTPUTS
SPECIFY IMPACT INDICATORS
Have indicators been identified for each intended output?
Are indicators satisfactorily valid and reliable?
SPECIFY MEASUREMENT METHODS
Have measurement methods been developed for each indicator?
SPECIFY SOURCES OF DATA
Is data which can feasibly be acquired identified for each indicator?
SPECIFY DATA COLLECTION METHODS
Have appropriate acquisition methods been specified for each source of data?
ASSESS CONSTRAINTS ON DATA COLLECTION
Can data collection be implemented within constraint context?
IDENTIFY DATA PROCESSING/ ANALYSIS METHODS & CONSTRAINTS
Can data processing and analysis be carried out within constraint context?
PREPARE STUDY WORK PROGRAM

INDICATORS OF SUCCESS

When determining whether or not objectives have been met or whether a process has been successfully implemented, it is absolutely necessary to have determined in advance the indicators of success. Unless indicators are identified in advance, the evaluator seeks information about some indicators while the manager seeks information about different indicators. Occasionally the manager, the planner and the funding agency will identify different indicators of success.

IDENTIFY MEASUREMENT METHOD

The measurements are those specific pieces of information which are needed to determine whether or not the indicator was met. Part of the evaluation plan involves identifying the quality and quantity of information needed and the way that information will be secured. The measurement method must be defined in order to insure that the data is gathered in a way which will be useful and it must be gathered within the identified time constraints imposed by the decision maker(s).

IDENTIFY CONSTRAINTS

In order to insure a degree of success, the constraints to gathering the data must be assessed. A decision must then be made as to whether or not a constraint is insurmountable and therefore another bit of information should be sought as a replacement; whether or not the constraint is workable if specific steps are taken; or whether or not the constraint is easily dealt with.

EVALUATION WORK PROGRAM

The manager must insure that an evaluation work program is developed. This, like the detailed work program (Module 6, Allocating Resources) will insure that all the necessary activities are identified, staff assigned to complete the activities, finances allocated, and time constraints met.

EVALUATION RESULTS MUST BE

All previous efforts will have been in vain if evaluation results are not used in the decision-making process. To help insure that the results of prior efforts are used, the information presented to the urban manager must meet certain criteria:

- the results must be what the manager needs (appropriate)
- the results must be reliable
- the results must be available when needed (timely)

- the results must reach all who need it
- the results must be trusted by the manager (credible)
- the results must be in a usable form

SUMMARY

Evaluation is an integral part of the strategic planning process. It can provide various kinds of information to support local decision making. But in order for evaluation to be available when and where needed, a process must be set up in advance. It is during the planning phases that an identification should be made of the decisions to be made, the information necessary to make those decisions, and how to insure that the information will be available.

It is the responsibility of the urban manager to insure that this information will be available by allocating the necessary time, staff and financial resources. Unless evaluation activities are included on the organization work program, the chances are excellent that they will not happen.

PLANNING FOR EVALUATION
SUGGESTED READINGS

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PLANNING FOR EVALUATION WORKSHOP (90 Minutes)

INSTRUCTIONS

FIRST: For the project your department has developed, identify the significant decisions which would likely be influenced by evaluation. Which of these change-oriented decisions would be made before, during, and after the completion of the project?

SECOND: Working as a group determine what kind of information will be needed to make those decisions and identify who (what level) will make those decisions.

THIRD: Working as a group determine what information will be needed on a routine basis to monitor the performance of the project.

FOURTH: Working as a group determine what information will be needed to determine the impact of the project.

EXERCISE

(1) Significant Management Decisions	(2) Evaluation Information Needed to Make Decision	Who will make Decision

(3)

Monitoring Information Needed	By Whom	How Often	How Collected

(4)

How will you know if the project made any difference?

Indicators	Information Needed

NOTES ON QUANTITATIVE APPLICATIONS

The following notes were written by Jim DeCarlo, Director of the Center for Management Development at Frostburg State College (Maryland) to provide an overview of several of the more commonly applied quantitative techniques. No attempt has been made to describe the underlying theory or to show why these techniques work. Many simplifying assumptions are implicit in these notes and relatively simple examples have been chosen to illustrate the applications. For a more thorough coverage of these and other quantitative techniques, the reader is referred to any of the standard texts on operations research, management science, or quantitative methods.

Decision Trees

Decision theory is a systematic and quantitative approach to the study of decision making. It seeks methods for selecting the best course of action from a set of possible alternatives. The decision tree is one of the tools that has been developed from the application of decision theory.

Decision trees provide a graphical presentation of sequential decision processes. They show at a glance when decisions are expected to be made, what the possible consequences are, and what the resultant payoffs will be. Using the decision tree, management can examine the impact of a series of decisions (multi-period) on the objectives of the organization. The graphical presentation helps in understanding the interactions among alternative courses of action, uncertain events, and future consequences. Another advantage is that the results of the computations are depicted directly on the tree, thereby simplifying the analysis.

In order to apply the decision tree technique, the decision maker must determine four pieces of information:

1. The alternative courses of action.
2. The states of nature.
3. The probabilities of the states of nature.
4. The payoffs.

Decision making by definition involves two or more options (strategies) or alternative courses of action. The decision maker will want to identify all feasible options so that a complete analysis may be undertaken.

For each option identified there will be some number of outcomes possible. (The number of outcomes can range from a single possibility to an unlimited number of possibilities.) These outcomes,or consequences, are sometimes referred to as a state of nature. A state of nature can be a state of the economy, a weather condition, a political development, or other situation in which the decision maker has little or no control. The states of nature are usually not determined by the action of a single individual or an organization. They are basically the result of an "act of God," or the result of many forces pushing in various directions.

The decision maker needs to ask: "What is the likelihood of these states of nature occurring?" It is generally necessary to answer this question in terms of explicit chances or probabilities.

The payoff or the consequence associated with a certain alternative and a specific state of nature is generally expressed in monetary terms. The payoffs can be thought of as conditional since a specific payoff results from a specific state of nature occurring after a certain alternative course of action has been taken. An important point to remember is that the payoff is measured within a specified period (e.g., after one year). This period is sometimes referred to as the decision horizon.

The process of applying the decision tree technique involves three major steps:

1. Developing the framework of the decision tree.
2. Entering the probabilities and financial data.

3. Determining the optimumal course of action.

A simple example will be sued to illustrate the application of this technique. The County Director of Tourism is trying to develop an appropriate strategy to attract additional conventions to the county during the coming year.

One option was to attend the annual meeting of Executive Directors of National Trade and Professional Associations. These were the people who recommended conventions sites to their members. The Director of Tourism estimated that attendance at such a meeting could result in a sixty percent chance of attracting twelve additional conventions to the county during the coming year. The Director further estimated a thirty percent chance of attracting six additional conventions and only a ten percent chance of attracting no additional conventions as a result of this effort. The costs associated with attending the meeting, including travel, lodging, entertainment, booth construction, and booth materials, were estimated at $11,000.

Another alternative was to develop and print a new brochure highlighting the more attractive features of the county. It was estimated that $5,000 would be required to prepare sufficient quantities of such a brochure. The Director felt that the brochure would result in a seventy percent chance of attracting eight additional conventions and a twenty percent chance that no additional conventions would be attracted. Because of the increased activity of other convention sites, there was also a ten percent chance that two conventions might go elsewhere next year.

A third option was to do nothing. The Director estimated that there was only a twenty-five percent chance of attracting four additional conventions without any special promotional effort. There was also a fifty percent chance of no additional conventions and a twenty-five percent chance that three conventions ordinarily held in the county would go elsewhere.

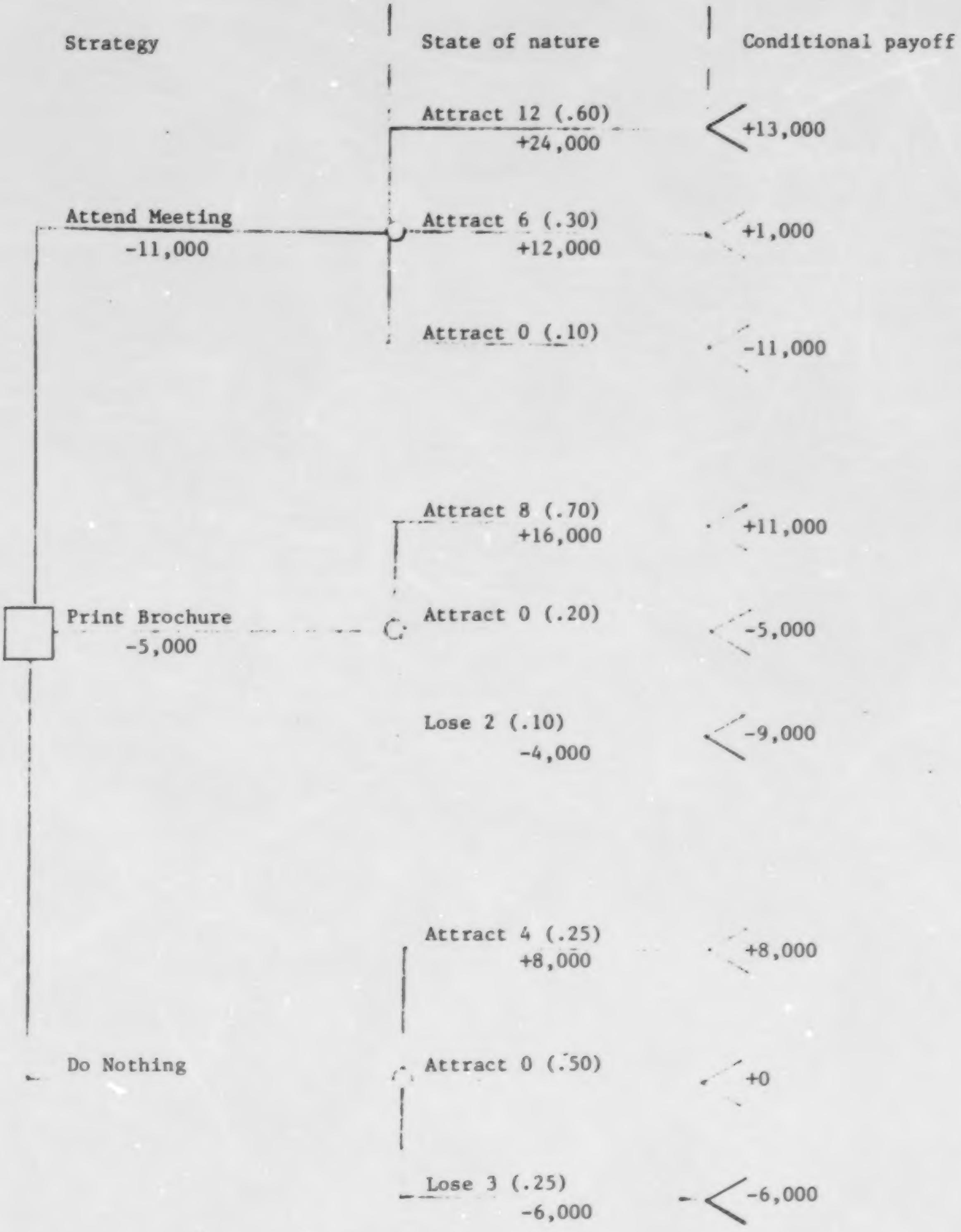
The Tourism Office estimated that each conventions held in the county resulted in a net economic benefit of approximately $2,000. The Director of Tourism wondered which strategy would provide optimumal results.

In terms of the four elements mentioned earlier, the following information is available:

1. Alternatives: attend meeting, print brochure, do nothing.
2. The states of nature: attract new conventions, attract no new conventions, lose conventions.
3. The probabilities: these have been assessed for each of the states of nature.
4. The payoffs: costs associated with attending the meeting and printing the brochure have been estimated. The net economic benefit to the county has also been estimated at $2,000 per convention.

A simple decision tree can be constructed which incorporates all of the above information. Conditional payoffs, in the form of net cash flow, have been calculated and are also shown on the decision tree.

The next step is to calculate a monetary value for each strategy so that a comparison can be made. The strategy selected will be the one resulting in the largest net economic benefit to the county. An expected value for each


Strategy
State of nature
Conditional payoff
Attend Meeting
-11,000
Attract 12 (.60)
+24,000
+13,000
Attract 6 (.30)
+12,000
+1,000
Attract 0 (.10)
-11,000
Print Brochure
-5,000
Attract 8 (.70)
+16,000
+11,000
Attract 0 (.20)
-5,000
Lose 2 (.10)
-4,000
-9,000
Do Nothing
Attract 4 (.25)
+8,000
+8,000
Attract 0 (.50)
+0
Lose 3 (.25)
-6,000
-6,000

strategy can be determined. This expected value is nothing more than a weighted average of the possible outcomes using the probabilites as weighting factors. The expected value for any alternative is calculated by adding the product of the probability of occurrence for each state of nature and the conditional payoff for that state.

This is done for the "attend meeting" strategy as follows:

EV (Meeting) + .6 ($13,000) + .3 ($1,000) + .1 (-$11,000) = $7,000

The expected values for the "print brochure" and "do nothing" strategies are calculated in a similar manner:

EV (Brochure) = .7 ($11,000) + .2 (-$5,000) + .1 (-$9,000) = $5,800

EV (Nothing) = .25 ($8,000) + .5 (0) + .25 (-$6,000) = $500

From this information, the Director of Tourism can see that the optimumal strategy is to attend the meeting. It should be pointed out that $7,000 is the expected or average payoff. If the Director decides to attend the meeting, the actual benefit to the county will be some amount other than $7,000. However, the $7,000 represents the average benefit the county can expect if it faces similar decisions over a period of time and makes those decisions in a consistent manner.

The most difficult aspect of applying this technique to practical situations lies in determining the appropriate probabilities. It is sometimes possible to rely on historical data. Often, however, an educated guess as to the likelihood of accurrence of any state of nature must be made. Obviously the results will be no more accurate than are the probabilities. Another difficulty sometimes arises in assessing the financial consequences of a particular state of nature. Sometimes there are no direct financial consequences. In such a case an estimate of indirect financial impact must be made to allow comparison of the alternatives.

The unique feature of decision trees is that they allow management to combine a clear graphical presentation of the impact of various alternative courses of action with the analytical technqiues of expected value. The computations required in decision trees can usually be done manually. A computer is required only when extremely large and complicated trees are analyzed.

LINEAR PROGRAMMING

Linear Programming is one of the best developed and most widely applied disciplines of Operations Research. It is but one of the techniques that fit into the general class known as Mathematical Programming. Linear Programming concerns itself with the optimum allocation of limited resources among competing activities under the constraints imposed by the situation being analyzed. Thus, Linear Programming is applicable when limited resources must be shared among a number of competing demands and all decisions are interlocking because they have to be made subject to a common set of constraints. These constraints could be of a financial, technological, marketing, organizational, or any other nature. In broad terms, Linear Programming can be defined as a mathematical representation aimed at programming (or planning) the best possible allocation of scarce resources with a mathematical model used in that representation characterized by exclusively linear functions.

Generally speaking, there are two conditions that must be satisfied if Linear Programming is to be applied:

1. There must exist an objective such as revenue, profit, cost, quantity, which is to be optimized and which can be expressed as or represented by a linear function.

2. There must be restrictions on the amount or extent of attainment of the objective and these restructions must be expressable as, or representable by, a system of linear equalities or inequalities.

Before considering the techniques for solving Linear Programming problems, it is important to understand what is meant by linear functions and equalities and inequalities. A linear function is one where the value of one variable is linearly (or directly) proportional to the value of the other. A linear function is represented geometrically by a straight line. An inequality can be one of four types:

1. Less than

2. Greater than

3. Less than or equal to

4. Greater than or equal to.

Solution Stages

Although the practical applications of Linear Programming cover an increasingly broad range of problems, it is possible to distinguish five general stages that the solution of any Linear Programming problem should follow:

1. Formulating the model.

2. Gathering the data.

3. Obtaining the optimum solution.

4. Applying sensitivity analysis.

5. Testing and implementing the solution.

The stages are not clearly defined, contain common overlaps, and strongly interact with each other. A discussion of the main characteristics of each stage follows.

The application of Linear Programming is a practical situation begins with the development of the Linear Programming model. The first step in model formulation is defining the decision variables. This necessitates identification of those variables which are most adequate to describe the situation being examined. Selection of the objective function is the second aspect of model formulation. Once the decision variables are established, it is possible to determine the objective to be minimized or maximized, provided a measure of performance (or effectiveness) has been established and can be associated with the values that the decision variable can assume. This measure of performance is necessary if we are to be able to evaluate various courses of action. The most common index in practical applications is dollar value. This defines the objective function as minimization of cost or maximization of profit. However, other objectives are possible. In fact, the definition of acceptable objective function can constitute a serious problem in some situations. This is especially true when social or political considerations are involved. In addition, there can be conflicting objectives, each important in its own right. In these situations, it is usually helpful to define multiple objective functions and to solve the problem with respect to each one, separately observing the values that all the objective functions assume in each solution. If no one solution can satisfy the multiple objectives, at least the manager can make a decision knowing what the consequences for the various objectives will be. The final aspect of model formulation is describing the constraints. This requires identifying all of the constraints that characterize the problem and describing them in terms of linear equations or inequalities. There will be one equation or inequality for each constraint that is identified.

Having developed the model, the second step is to select the data for its solution. This usually represents one of the most time consuming and costly efforts required by the Linear Programming approach.

Several techniques are available for solving Linear Programming problems. A discussion of the techniques applicable to problems involving only two variables is presented later in this paper. Most practical problems are best solved using the computer.

One of the most useful characteristics of linear programming is the ability to perform sensitivity analysis on the optimum solutions. These post-optimum analyses are important for several reasons:

1. Data uncertainty: It is often significant to determine how sensitive the optimum solution is to changes in the decision variables.

2. Dynamic considerations: How should recommended courses of action be modified over time when changes most probably will take place in the original specifications?

3. Input errors: What is the effect on the optimum solution of errors

in the original formulation of the problem?

Before implementing the solution, steps must be taken to confirm that the model which has been developed is a reasonable representation of the actual situation. Only then can plans be made for implementation.

A simple example follows which illustrates the application of this technique to a practical problem. Although this example contains only two variables and can be solved using a graphical approach, the process of formulating the model is the same as for problems with any number of variables.

The Director of the Department of Public Works has decided to explore the possibility of manufacturing the concrete required by the DPW. At a meeting with the city engineer, the Director learns that each unit of concrete requires at least: 12 units of fine sand, 12 units of coarse sand, and 10 units of gravel. The owner of a local quarry has indicated that the two required ingredients are available in sufficient quantities to enable the city to meet its projected needs. Ingredient A will cost $.06 per pound and contains 4 units of fine sand, 3 units of coarse sand, and 5 units of gravel. Ingredient B costs $.10 per pound and contains 3 units of fine sand, 6 units of coarse sand, and 2 units of gravel. The Director wants to determine the least cost mixture so that a comparison with commercial prices can be made.

This is a problem in product mix or blending, and the decision variables are the amounts of ingredients A and B to be combined to form one unit of finished product. The Director has identified the objective as one of minimizing cost. The constraints arise from the requirements that there be a specified number of units of three substances. Therefore, three inequalities will be required in the mathematical model. The inequalities necessary to describe this problem are:

Fine sand: $4A + 3B \geq 12$

Coarse sand: $3A + 6B \geq 12$

Gravel: $5A + 2B \geq 10$

The first inequality says that the number of pounds of ingredient A times 4 units of fine sand per pound plus the number of pounds of ingredient B times 3 units of fine sand per pound must be greater than or equal to 12 units. The other two inequalities are interpreted in a similar manner.

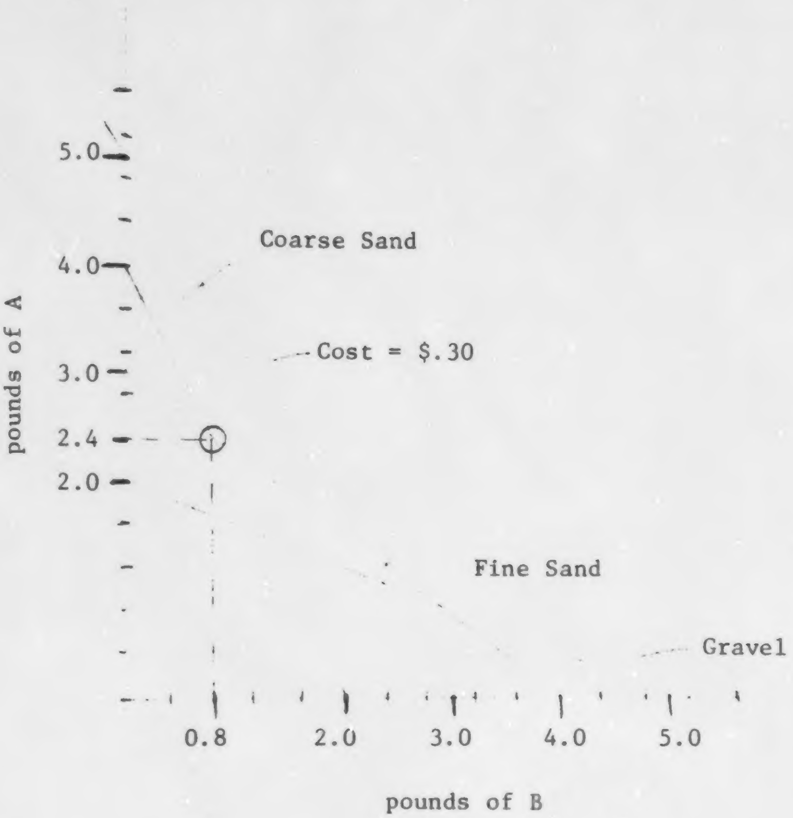
The Director's objective to minimize cost can be expressed as follows:

Minimize: $.06A + .10B$

This can be read as saying that we want to minimize the total cost of the mix which is $.06 per pound times the number of pounds of ingredient A plus $.10 per pound times the number of pounds of ingredient B.

These three inequalities along with the minimization statement represent the mathematical model for this problem. (It should be understood that non-negative answers are required; therefore, implicit in the model are the requirements that both A and B be greater than or equal to 0.)

Because only two variables are involved, a graphical technique may be applied to solve for the appropriate values of A and B. The first step in applying this technique is to graph the inequalities.



Any combination of ingredients A and B represented by a point lying above all three constraint lines will simultaneously satisfy all three requirements and, therefore, is a candidate for the final mixture. However, we are trying to determine that mixture which will result in the lowest cost. To determine the lowest cost mixture, we must first represent our objective on the graph. We do this by arbitrarily selecting a value for cost. Any other figure selected to represent cost will result in a line parallel to the one shown. If there is a unique solution to this problem (i.e., only one point will simultaneously satisfy the constraints and achieve our objective), then that solution will lie on an isocost line at the intersection of two constraints that is closest to the origin. By drawing isocost lines through each intersection and parallel to our original objective line, we can determine which intersection lies closest to the origin. For this problem, we can see that the optimum mix lies at the intersection of the fine sand and coarse sand constraint lines. If the graph has been drawn accurately enough we can read the appropriate mixture directly. (If this is not possible algebraic techniques may be applied to determine the point of common intersection for two lines.) From the graph we see that 2.4 pounds of ingredient A and 0.8 pounds of ingredient B are necessary. The total cost of such a mixture will be $.224.

Since the Director ordinarily purchases concrete in 50 pound bags, this solution must be extended to enable a comparison to be made. Our recommended mixture requires that for each pound of ingredient B there be 3 pounds of ingredient A. Therefore, in a 50 pound bag of concrete we would use 37½ pounds of ingredient A and 12½ pounds of ingredient B. Thus, the cost to manufacture a 50 pound bag of the concrete will be $3.50. (Of course, we have not taken into account the cost of labor or equipment necessary for the manufacturing process. The Director will have to factor these considerations into his final decision.)

It is worth emphasizing that the process of applying Linear Programming techniques is the same no matter how many variables are involved up to the application of a solution technique. For problems involving more than two variables, other than a graphical approach must be used.

PERT/CPM

Network Planning refers to a set of graphical techniques used in planning, scheduling, and controlling projects. They come packaged under a confusion of acronyms. The two original and best known techniques are Program Evaluation and Review Technique (PERT) and Critical Path Method (CPM).

PERT and CPM were developed independently and at about the same time in the late 1950's. CPM was developed by Remington Rand for the Dupont Company in 1957. Originally developed as a management aide in scheduling maintenance shut downs of chemical processing plants, CPM came to be used in a wide variety of engineering activities. PERT was developed by the U.S. Navy Special Projects Office in 1958 for scheduling and controlling the Polaris Missile Project.

Both are based on essentially the same concepts although there are some differences in details. The most significant difference is that PERT allows for probabilistic time estimates. There are also slight differences in terminology and in diagraming specifics. Both attempt to display a project in graphical form and to relate its component tasks in such a way as to focus attention on those which are crucial to the project's completion.

For these techniques to be most applicable, a project must have the following characteristics:

1. It must have well-defined tasks whose completion marks the end of the project.
2. The tasks are independent; they may be started, stopped, and conducted separeately within a given sequence.
3. The tasks are ordered; they must follow each other in a given sequence.
4. A task once started must continue without interruption until completion.

The Network Plan summarizes a great deal of important information:

1. Activities required
2. Their precedence relationships
3. Slack time in the schedule

From the basic Network Plan we can easily calculate the earliest and latest start times as well as the earliest and latest finish times, the available slack time and the critical path through the project.

The application of Networking Techniques consists of three basic steps:

1. Planning
2. Networking
3. Controlling

The stages are not clearly defined, contain common overlaps, and strongly interact with each other. A discussion of the main characteristics of each stage follows.

During the planning stage a complete and thorough job of project analysis must be performed. This alone results in some of the greatest benefits of Networking applications. If the planning is thorough, the result is early knowledge of the project and insight into details and anticipated problem areas that cannot be obtained in any other fashion. This phase requires the identification of all of the activities required to complete the project as well as the precedence relationship that exists among these activities.

During the Networking Phase an arrow diagram is constructed which graphically represents the sequence and interdependency of the activities identified during the planning stage. As a result of this phase, the project manager will have a complete schedule and will be able to identify those activities which lie on the critical path.

During the Control Phase the project manager can compare actual usage of time and resources against the original estimates. This makes it possible to prepare status reports with revised schedules reflecting actual project conditions. These status reports may require reassignment of resources so that the project is completed in a timely manner.

A simple example follows which illustrates the application of Networking Techniques to a practical problem.

A small manufacturing firm has agreed to locate in a new industrial park if the local development company can have a shell building constructed and ready for occupancy within sixty days. The engineering staff of the development company has prepared a list of those activities which are required to construct the shell building. The precedence relationship of all of the activities has been identified along with estimates of the time required to complete each activity.

ENGINEERS' ESTIMATES

			Time Estimates		
Code	Task	Predecessor	Optimistic	Most Likely	Pessimistic
A	Start	--	0	0	0
B	Purchase poles, trusses, OH doors	A	10	10	25
C	Purchase roof, walls	A	3	3	3
D	Purchase electric lights	A	1	1	1
E	Remove debris now on site	A	1	2	3
F	Fill/grade to level surface	E	5	7	9
G	Excavate/pour pole footings	F	2	3	4
H	Set wooden poles	G,B	4	5	15
I	Set wooden trusses	H	3	4	8
J	Install roof	C,I	2	4	6
K	Install walls	C,I	2	3	4
L	Install OH doors	J,K	4	6	11
M	Pour concrete floors	H	3	3	3
N	Install electric lights	D,J	2	4	6
O	Finish grade/landscape	L,M	5	7	9
P	Finish	N,O	0	0	0

In the table, the predecessor activities are those activities which must be completed before the succeeding activity can begin. The optimistic time estimate is the shortest possible time for completion of the activity if all goes well (there is one in one-hundred chance of less time being required). The pessimistic time represents the longest time required for completion of the activity under adverse conditions but barring acts of nature (there is one in one-hundred chance of more time being required). These three time estimates are used in calculating the expected time according to the following formula:

$$\text{Expected Time} = \frac{\text{Optimistic} + 4\ (\text{Most Likely}) + \text{Pessimistic}}{6}$$

As originally developed, PERT require these three time estimates although it is becoming more and more common to use a single estimate of time. CPM requires only an estimate of the expected time.

The engineers used the above formula to calculate the following expected times:

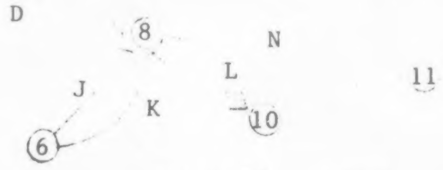
EXPECTED TIMES

A:0
B:12.5
C:3
D:1
E:2
F:7
G:3
H:6.5
I:4.5
J:4
K:3
L:6.5
M:3
N:4
O:7
P:0

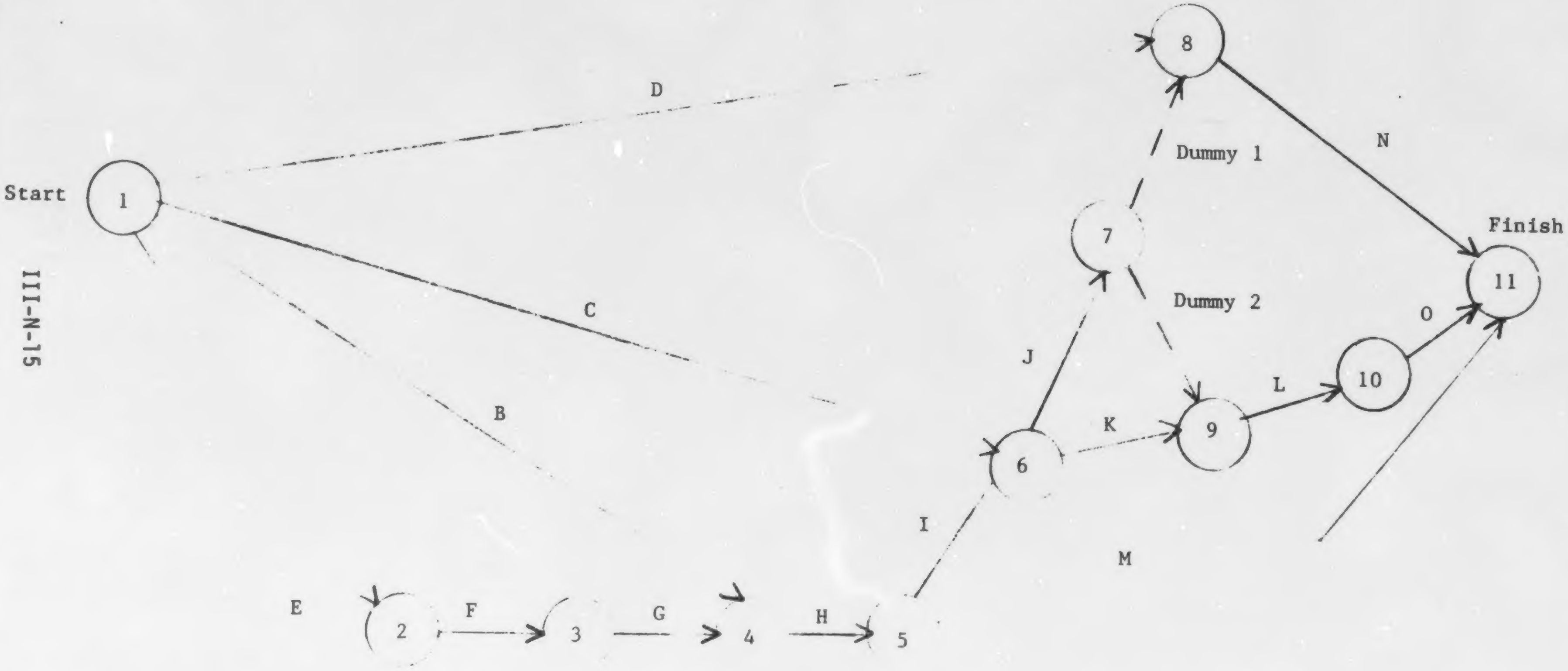
These are the times that will be used to determine the project schedule.

The next step is to develop the arrow diagram. This diagram will graphically present the sequence of activities as well as the interrelationships which exist. In drawing the diagram an arrow is used to represent each task or activity which has been identified. There is no significance attached to the length of the arrow. Circles are used to identify the starting and ending point of an activity. These circles are referred to as events and do not consume any time. Activities represented by arrows leaving a given circle cannot begin until all of the activities represented by arrows entering a circle have been completed. It is conventional to identify the events using numbers such that the tail of a given arrow always has a lower number than the head of that arrow.

It was necessary for this project to insert two dummy activities. Without these dummy activities the diagram at that point would have looked as follows:



III-N-15


Start
1
D
C
B
8
Dummy 1
7
Dummy 2
N
Finish
11
O
J
10
L
K
9
6
I
M
E
2
F
3
G
4
H
5

Arrow Diagram

The dummy activity from event 7 to event 8 is necessary because activity N depends on activity D but not on activity J or K. Dummy activities require 0 performance time. The dummy activity from event 7 to event 9 is necessary so that activities J and K each have a unique numeric identifier. By inserting the dummy activity, activity J is identified by events 6 and 7 while activity K is identified by events 6 and 9.

The next step is to calculate the early start and early finish times. Early start time is defined as the earliest possible time for starting an activity assuming that all predecessors also start at their early start times. In calculating these times it is conventional to work from project start to project finish letting the start time equal 0. The early finish time of any activity is equal to its early start time plus the time required for that activity.

It is also possible to calculate late start and late finish times for each activity. In calculating these times it is conventional to work from project finish to project start. Late start time is defined as the latest possible time for starting an activity if the target completion date is to be met. Late finish time for any activity is equal to late start plus the time required to complete that activity.

The engineers follow this procedure to arrive at the following table:

	Early		Late	
Code	Start	Finish	Start	Finish
B	0	12.5	19	31.5
C	0	3	39.5	42.5
D	0	1	55	56
E	0	2	19.5	21.5
F	2	9	21.5	28.5
G	9	12	28.5	31.5
H	12.5	19	31.5	38
I	19	23.5	38	42.5
J	23.5	27.5	42.5	46.5
K	23.5	26.5	43.5	46.5
L	27.5	34	46.5	53
M	19	22	50	53
N	27.5	31.5	56	60
O	34	41	53	60

From the table one can see that the project can be completed in 41 days. This is well within the sixty day time table established by the agreement. Conversely, in order to be completed no later than sixty days from now the project must get started on the 19th. day. Thus, it would seem that if all goes well we can tolerate a delay of 19 days. This leads us to a calculation of the final two parameters available from a network diagram. These are the slack time and the critical path. Slack time is defined as the maximum amount of delay allowable beyond the early start time without delaying the project completion date. Slack time for any activity is the difference between its late start and its early start times. The critical path is that path through the project with the least amount of slack time. The engineers have also calculated the slack time and this is shown in the following table. Activities marked with an asterisk are those which lie on the critical path.

Slack Times

B: 0*
C: 20.5
D: 36
E: .5
F: .5
G: .5
H: 0*

I: 0*
J: 0*
K: 1
L: 0*
M: 12
N: 9.5
O: 0*

Thus, the critical path for this project is the one which includes activities B, H, I, J, L, and O. During the control phase, these are the activities that the project manager will want to monitor most carefully to ensure that the target completion date is met.

As one might expect, there are potential shortcomings and problem areas in the application of these techniques. Some contractors have been able to use this technique to their advantage. Knowing that contractors on the critical path have greater leverage, some have been able to manipulate the management team to their advantage. On the other hand, some contractors manipulate to get off the critical path and thereby be less visible members of the contract team.

One needs to recognize that complex projects can undergo many changes over time and that much updating of the network may be required. In some instances it is not always possible to specify the sequential relationships in advance. Another problem arises when the project manager focuses so much attention on the critical path that some other task delays the project. It is sometimes difficult to estimate accurately the optimistic and the pessimistic times required to complete an activity. The project manager also needs to recognize that there are likely to be time lags in reporting the status of given activities and therefore delays in updating the schedule. Finally, some projects may be simply too large and too complex to allow the application of these techniques.

Queuing Theory

Queue is another name for a waiting line and a queuing system is simply a system that involves a waiting line. Queuing theory is a branch of management science that enables the analyst to describe the behavior of queuing systems.

Occasions for applying queuing theory are numerous and varied. When people who design systems that contain queues use queuing theory, or simulation, to estimate expected waiting times, queue lengths, and so on, members of the queue spend less time waiting in line.

Several factors contribute to the need for this analytical tool. On the one hand, the demand for services is unstable. There are foreseeable fluctuations during certain time periods. In addition, there are unforeseeable changes in the pattern of demand. On the other hand, the length of the service may vary due to particular requirements of those requesting the service. The result is difficulty in meeting demand immediately upon request especially during rush hours.

The management of services is indeed complicated. While management would like to satisfy the service requestor, it is very expensive, sometimes even impossible, to satisfy everyone immediately, all the time. When queuing theory is applied, management's objective is usually to minimize two kinds of costs: those associated with providing service and those associated with waiting time. After queuing theory has generated its statistical interpretation of the queuing system, the analyst assesses the various costs of providing service versus the costs of waiting, in order to design the system that best meets the objectives of the organization. This can be helpful in enabling management to determine the appropriate level of services to provide.

A queuing system is composed of the following parts:

1. The customers and their source. (Customers are defined as those needing service and are generated from a population or a source.)

2. The arrival process. (This is the manner in which customers show up at the service facility.)

3. The service facility and the service process. (The service is provided by a service facility and the manner in which service is provided is referred to as the service process.)

4. The queue. (Whever an arriving customer finds that the service facility is busy, a queue, or waiting line, is formed.

Queuing methodology is a descriptive tool of analysis. This means that the major objective of waiting line theory is prediction of the behavior of a system as reflected in its operating characteristics or measures of performance.

The managerial application of waiting theory involves the use of computed measures of performance for selecting an alternative solution to a queuing problem, usually among small numbers of alternatives. The entire process involves three steps:

1. Establish the measures of performance (or the operating characteristics) of the queuing system.

2. Compute the measures of performance.

3. Conduct a comparative analysis.

In the first step a model of the problem is formulated and the measures of performance are decided upon. Examples of such measures are:

1. The average waiting time per customer.

2. The average number of customers in the waiting line.

3. The utilization (busy period) of the service facility or else its idle time.

4. The service level (the percent of customers that will have to wait more than a fixed amount of time).

Once the problem has been formulated, one of two solution methods is employed to find the measures of performance. In the analytic approach the measures of performance are determined through the use of formulas. Unfortunately, many queuing situations are so complex that the analytic approach is completely impractical or even impossible. For those situations in which the analytic approach is unsuitable, the procedure of simulation can be used. The measures of performance must be computed for every course of action under consideration.

These measures of performance must be available so that a comparative analysis can be conducted. In queuing analysis there are usually only a small number of alternatives to be evaluated. The number of feasible alternatives in a service system is usually small because of human, technical, financial, and legal constraints. Alternatives may differ in the size of the facility, the number of facilities, the speed of service, the priorities given to customers, or in the operating procedures.

After the measure of effectiveness has been computed for each alternative, the alternatives can be compared on the basis of their overall effectiveness. A queuing system sometimes involves several measures of performance and it may be necessary to establish a common one to quantitatively compare the alternatives. In some cases, a qualitative comparison of the multiple measures of effectiveness is performed and no attempt is made to consolidate the multiple measures.

We can think of a queuing model composed of three components:

1. The arrival process.

2. The service facility.

3. The waiting line.

Several factors are used to describe the arrival process. We need to recognize if the source (population) is basically infinite (or unlimited) or finite. Unless otherwise specified, queuing theory assumes an infinite population. We also need to distinguish whether customers arrive in batches or individually. Customers can also arrive either on a scheduled basis or without prior notification. If they come without prior notification, their arrival time is not exactly known but historical data enables us to describe arrivals by some frequency distribution. With either expected or unexpected arrivals, the arrival process can be described by either the arrival rate or by the interarrival times. The difference is that in scheduled arrivals, the arrival rates and the interarrival times are constant while in unscheduled arrivals we talk about averages and frequency distributions.

There are several factors to consider in describing the service process. The first is the basic arrangement of service facilities. There may be a single facility or multiple identical facilities, or multiple but not identical facilities, or serially arranged facilities. Service time, which is another factor, may be constant or it may fluctuate. Knowing the service time we can also identify the service rate.

The waiting line is described by rules and regulations that are termed the queue discipline. The queue discipline describes the policy that determines the manner in which customers are selected for service. We may have a priority system where selected customers are dealt with upon arrival. We may be dealing with a preemptive priority system in which an important customer not only has priority in entrance, but can even interrupt a less important customer in the middle of service. Two other options are: last-in, first-served, and first-in first-served.

A simple example will be used to illustrate the application of queuing theory.

The city's Manager of Administrative Services is considering leasing one of two possible duplicating machines. Model one is capable of duplicating twenty jobs each hour at a cost of $50 per day. Alternatively model two can duplicate twenty-four jobs per hour at a cost of $80 per day. The duplicating center is open ten hours a day with an average arrival of eighteen jobs per hour. The duplication is performed by employees randomly arriving from various departments whose average hourly wage is $5.

To assess the alternatives it is necessary to compute and compare the same measures of performance for both models. The manager has determined that the relevant measures of performance for this situation are:

1. The average waiting time, W (the average time a customer spends waiting for the service and being served).

2. The average number of customers in the system, C (the average number of customers in the queue and being served).

3. The probability of an idle facility, P (idle) (the probability that there are no customers in the system).

Formulas are available for calculating these measures. Note that in the formulas the average arrival rate is designated by A and the average service rate is designated by S (the average service time is then 1/S. The formulas are:

$$W = \frac{1}{S - A}$$

$$C = \frac{A}{S - A}$$

$$P\ (\text{idle}) = 1 - \frac{A}{S}$$

The ratio A/S is referred to as the utilization factor, U. This ratio is the measure of the percentage of time that the system is utilized. If U is equal to or larger than 1, the waiting line will increase without bound, a situation which is unacceptable to management.

The measures of performance for each model are summarized in the following table.

	Model 1	Model 2
A (given)	18	18
S (given)	20	24
U	$\frac{18}{20} = .9$	$\frac{18}{24} = .75$
W	$\frac{1}{20-18} = .5$	$\frac{1}{24-18} = .17$
C	$\frac{18}{20-18} = 9$	$\frac{18}{24-18} = 3$
P (idle)	1 - .9 = .1	1 - .75 = .25

The manager can now analyze this data to make a decision. With model one each employee will spend .5 hour in the duplicating center and since 180 persons arrive at the center each day (18 per hour times 10 hours), there will be a total waiting time of .5 (180) equals 90 employee hours each day. At $5 an hour this waiting time will cost the company 5 (90) equals $450 a day. The total cost, $450 plus $50 daily machine cost equals $500 per day.

With model 2, each employee spends .17 hours in the duplicating center. Thus there will be a total wait of .17 (180) equals 31 employee hours each day. The cost now is only 5 (31) equals $155. Add to this the $80 cost of renting model 2 for a total cost of $235 or $265 per day lower than the model 1. Note that even though model 2 is only utilized 75% of the time, it is still the better machine to lease.

In comparing model 1 and model 2, notice that although model 2 is only 20% faster (i.e., its service capacity is 1.2 times that of model 2), the waiting time was cut down by almost 67% (from .5 hour to .17 hour). In addition, the number of people at the duplicating center was reduced from nine down to three. This is an indication that a common sense approach (such as double the service rate and the waiting time will be cut in half) is incorrect in queuing situations.

The computation of the operating characteristics of a system enable management to make such decisions as: the type or size of the service facility, the service rate, the number of service units, and the operating hours.

Managerial decisions of this type are made both in the design stage of new systems and in the operation stage (improvements or modifications) in existing systems. The decision process itself, which is based on the descriptive information found in the operating characteristics, does not necessarily yield an optimumal solution. Rather it is a comparative analysis which attempts to select the best of all alternatives checked.

PARTICIPANT MANUAL

LONG RANGE AND STRATEGIC PLANNING FOR URBAN MANAGERS

Module 8

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Management Development Center of Maryland

Department of Personnel

State of Maryland

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A project of this magnitude could not have come to fruition without the input and feedback from many different people.

The ideas contained in the training materials represent an amalgamation of the many lectures, workshops, and seminars I have presented over the last ten years. While many of the examples used in the training materials are drawn from my own experience, the health forecasting model in "Situation Analysis" was taken from the Executive Planning Process, State of Maryland.

The case study was developed with the cooperation of Larry Blick, City Manager, Rockville, Maryland; Frank Ecker, former Mayor of Rockville (1962-68); Alex Greene, former Mayor of Rockville (1958-62); C. Richard Foote, former City Manager of Rockville; and Jerome Heil, longtime resident of Rockville.

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Finally, a very special "Thank you" goes to Dr. Kenneth Pack for his unflagging support and assistance which was ongoing and continuing as the training manual was written, edited, field tested and rewritten.

INTRODUCTION

OVERVIEW

Long Range and Strategic Planning for Urban Managers is designed to enhance the management planning skills of urban managers by providing materials to support in-service training. Module 8, was designed around the following concepts:

- the model presented be one for thinking not merely a model for planning - designed by and for practitioners rather than utilizing an academic approach
- the material can be integrated into a lecture format, such as a classroom, but it is designed for a small group learning experience, providing an opportunity to internalize the concepts learned through the lectures, workshops, exercises, and critiquing discussions
- the material can be used as a reference manual once the participant returns to the work environment
- participants learn by doing and from each other

To insure that Long Range and Strategic Planning for Urban Managers met the requirements of practicality for in-service and pre-service training; adequacy of content, and replicability both an Advisory Council and an Assessment Team were developed.

The Advisory Committee consisting of three public administrators (a city manager, the executive assistant to a county manager, the president of a state chapter of the American Society for Public Administration) and an academician, responsible for providing input concerning the practicality of the curriculum.

In addition, an Assessment Team comprised of an urban practitioner and a specialist in adult education was responsible for the design, development and implementation of an evaluation design to assess how well the requirements were met.

Information and feedback from participants taking part in the testing of Modules 1-7 resulted in the development of a follow-up technical module which would provide in-depth coverage to material covered briefly in modules 1-7.

OBJECTIVES

Participants will demonstrate their ability to: identify evaluation related decisions within the context of the strategic planning process; identify the information needed to make the most effective decisions; and identify indicators of success for the decision product; the elements of an evaluation design.

DEVELOPMENT

Many participants who took part in the testing of Long Range and Strategic Planning for Urban Managers (modules 1-7) mentioned their need for a manager's evaluation course. This need corresponded to a need we have seen for some time. For many years a review of the literature and of training programs has shown the emphasis to be on:

- an evaluation of a single entity (A process evaluation of a health service delivery system)
- an evaluation of a Federal program (A process evaluation of the model cities program)
- the research aspects of evaluation
- the conceptual and theoretical basis for evaluation
- developing the evaluation design

However, there was little information or training availble that combined the theory with the practical.

"Using Evaluation: A Management Perspective" is an attempt, in a training setting,to provide urban managers with not only an understanding of how evaluation is part of the strategic planning process but also the skills necessary for integrating evaluation information into the decision making process.

Just as the first 7 modules were developed to appeal to a wide audience so has "Using Evaluation: A Management Perspective" been developed to appeal to a wide variety of practioners from many different areas of functional specialization, e.g. housing, education, transportation, and community development. It functions for participants of various educational levels, ranging from doctorates to bachelor degrees; and at various levels in the organizational hierarchy, from high level administrators to junior staff members and field managers.

MANAGEMENT DEVELOPMENT CENTER

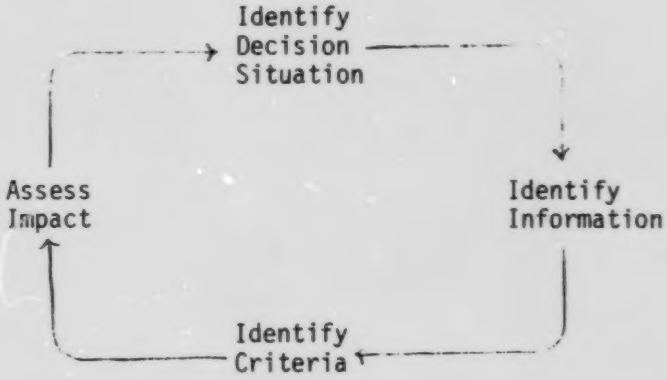
The Management Development Center of Maryland is a training organization offering assistance to public agencies in developing effective management. The Center seeks to augment, not to supplant, agency efforts in managerial staff development in providing a full range of management training and consulting services including assessing organizational training needs and tailoring courses for in-house use.

The Center is a unit of the Maryland Department of Personnel. It is supported in part by a grant from the U.S. Civil Service Commission under the Intergovernmental Personnel Act of 1970. Its goals are to:

- improve the management skills of public employees
- enhance an organization's in-house training and development competence
- link educational resources with public service training needs
- enhance an organization's ability to identify and solve problems
- advocate excellence in public service management

PREFACE

In order for evaluation results to be most useful to the public sector manager it must provide useful information. Useful, in the sense of being relative to the management planning decisions to be made. In order that the evaluation results fill this need, the manager has the responsibility of identifying, in advance, those decisions which will be aided by evaluation results, the specific information needed; the criteria by which the implemented decision (action/product/results) can be measured; and how to assess the impact of the action/product/result against the overall plan for the organization. A graphic portrayal is:


Identify Decision Situation
Identify Information
Identify Criteria
Assess Impact

The material which follows will describe the process by which all of this occurs.

Module 8

Using Evaluation: A Management Perspective

Objectives: The objectives of this module are to enable participants to: identify evaluation related decisions within the context of the strategic planning process; identify evaluation information needed to make effective decisions; identify indicators of success for the decision product; and to identify indicators of project/program success.

SECTION
I

USING EVALUATION: A MANAGEMENT PERSPECTIVE

USERS OF EVALUATION

Frequently, local governments are the recepients of federal funds. The U.S. Department of Labor provides funds for manpower training programs and the salaries of additional temporary public sector employees. The U.S. Department of Health, Education and Welfare provides funding for curriculum development and subsidized lunches in the public schools. The U.S. Department of Transportation has provided funds for parks and recreation as well as for roads. And the U.S. Department of Housing and Urban Development has funded community self-help organizations and low-cost housing for the elderly.

As might be expected, the federal government wants to know what is happening with its money (your taxes and mine). Because of this need to know, the federal government, through its departments and agencies, requires recepients of federal funds to submit periodic reports. These may be monthly, quarterly, annually or some combination. Each department or agency tends to have its own evaluation requirements. The diversity of federal funds coming into some localities has made evaluation a nightmare.

To compound the nightmare, local policy makers will want evaluation results to determine if the program should be continued or dropped. Should more money be diverted to this program? What is the overall effectiveness? The project or program manager will want evaluation results to determine which strategy is most economic, which parts of the program are most essential, and to determine what is really happening. The sometimes mandated citizen council will want evaluation results to determine if they are being by-passed in the decision making process, their expertise is used in planning and implementation, and occasionally, the beneficiaries of a program will want evaluation results to determine the service values of the program and to determine if program and projective objectives reflect their own needs.

Within this diversified framework the evaluator must remain cognizant of the multiplicity of concerns, even though it will be impossible to address all the issues and all the demands. Ultimately, resolution will depend on the kinds of decisions to be made and perhaps even on who will be doing the evaluation. Evaluation is rarely called upon to respond to "go/no-go" questions, primarily because these are few and far between. Rather, most evaluation efforts are directed toward a search for new strategies and techniques. These strategies and techniques evolve from and are consistent with goals and objectives. To better understand this evolution, let us look at the strategic planning process.

STRATEGIC PLANNING PROCESS
(IN BRIEF)

The focus of strategic planning is that an interrelationship exists among the various components of the planning process. These components come together in a way which allows planned change--program and organization--to take place. Strategic planning is unique in that each decision is linked to the results of prior decisions. This linkage means that a decision not to decide will also have impact on future decisions. The strategic planning process utilizes the budget process as a vehicle for reaching long-range goals.

By emphasizing the logical relationship among the various components of the planning process, the strategic planning process demonstrates the linkage of the various decisions made while moving from GOAL SETTING through PROBLEM ANALYSIS to SETTING OBJECTIVES and formulating STRATEGY on to selecting the appropriate project mix, and finally, to EVALUATION. This movement takes place in four activity phases: 1) specification of the plan; 2) adapting the plan for management purposes; 3) preparing for implementation; and 4) operation of the plan.

SPECIFICATION of the plan, phase one, involves six basic steps:

1. Statement of broad direction and general intent. Formulation of goals - subgoals - objectives which provide a framework for the direction of the organization.

2. Situation analysis (assessment) which includes the identification of the nature and extent of the problem. It also includes assessing the potential for solving the problem.

   Note: Phases one and two are to a large degree overlapping and interrelated. In practice they may occur simultaneously, or in reverse order depending upon the situation and personal preference.

3. Formulation of organizational objectives.
4. Identification of Strategies
5. Identification of Alternative Projects.
6. Preparation of the plan.

ADAPTING the plan for management purposes:

1. Preparation of the work program.
2. Preparation of the budget.
3. Planning for Evaluation.
4. Lobbying and getting support.
5. Submission

PREPARING FOR IMPLEMENTATION

Phase three, preparing for implementation of the plan, begins when funding has been approved. At this time, staff is selected and/or assigned, contracts are negotiated, and support relationships established formally with outside departments and organizations.

OPERATION

Phase four is the actual operation of the plan. For the urban manager it includes: reviewing the management structure; providing technical assistance as needed; monitoring ongoing projects; and engaging in replanning. Replanning is the continuing process of modifying systems/activities based on evaluation information.

SUMMARY

These four phases--specification, adapting for management purposes, implementation, and operation--provide the urban manager with a process which can be utilized to cope with changing conditions and changing technology.

This approach has been given many names--strategic planning, long-range planning, executive planning, comprehensive planning, and occasionally policy planning-- but, whatever the label, the process demonstrates an orderly progression moving from the problem to a solution.

Today, more than ever, the burden of accountability is on local decision makers. The effective use of urban management tools, such as the strategic planning process, contributes substantially to the quality of decision. The effectiveness of local governments, like the effectiveness of the private sector hinges on the quality of decision making.

To make these decisions, the urban manager needs as much information as possible. Evaluation provides a way for insuring the availability of information. 1/

LEVELS OF DECISIONS

"I don't make any decisions" is frequently heard from government employees. However, it is not true. Job-related decisions are made at all levels and by all employees. What differs is the level or kind of decision. Before examining the kinds of decisions made during the strategic planning process, it is important to identify the various levels of decision making.

- City Council
- Mayor
- Chief Administrative Officer
- Departments
- Bureau/Office
- Program
- Project

These levels are shown in descending order, that is, in levels away from the top.

1/ Eva Freund "Strategic Planning", Long Range and Strategic Planning for Urban Managers" Washington, DC, National Training and Development Service, 1977.

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KINDS OF DECISIONS

Within each stage of the strategic planning process there are three basic kinds of decisions: policy decisions, planning decisions, and management decisions. 1/

Policy decisions occur when the manager is faced with such issues as: what the organization's objectives should be; whether or not to become involved in a particular issue; whether or not to take part in a citywide task force; or how to deal with newspaper attacks.

Planning decisions occur when ways of implementing objectives have to be developed, or when deciding on program or project mix.

Management decisions occur when an organization begins operating and sets out to achieve its objectives. Decisions have to be made every day about scheduling, staffing and organizational interrelationships.

Policy, planning and management decisions occur at every level of government. For example:

LEVEL	POLICY	PLANNING	MANAGEMENT
Citywide (Mayor/ Council)	Contribution of general funds	Composition of citizen advisors	Evaluating departments
Department	Selecting the strategy	Allocating resources and project mix	Staffing patterns and making assignments
Project	To use evaluation	Adjustments to meet objectives	Determining levels of output

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1/ Eva Freund, "Strategy/Decision Making" Long Range and Strategic Planning for Urban Managers, Washington, DC, National Training and Development Service, 1977.

SECTION II

KINDS OF EVALUATION

There are many kinds of evaluation. Market research, cost/benefit analysis, experimental design, and operations research are all forms of evaluation in that there are ways of gathering information for decision purposes. However, they are differentiated by the decision situation they serve, the settings in which the decisions are made, and the level of precision needed. Each method of evaluation was developed for a specific context. Within the public management context may come performance, impact, planning support, and process evaluation.

PERFORMANCE EVALUATION

Performance evaluation is concerned with how well projects/activities are progressing in their work programs. It is concerned with the nature of the activities rather than their usefulness or appropriateness. Performance evaluation is concerned with the input and output levels as opposed to the project objectives and poses several questions:

- Are the outputs as planned and on schedule?
- Are the intended participants/beneficiaries being served?
- Are expenditures as planned?

Data to answer these questions is collected by monitoring. "Monitoring" is a process for gathering routine information on a regular basis. In contrast, evaluation is a much broader concept which involves not only monitoring, but also the collection of information on a special-purpose basis.

Under the umbrella of performance evaluation, one can also pose questions regarding program efficiency.

- What is the average cost per person served?
- How do administrative cost compare with the cost of service delivery activities?

It is also possible to study quality if the standard of quality can be determined in advance. It should be noted that performance evaluation always includes an implicit "Why?" If a project is behind schedule, the decision maker needs to know why. If a subunit is being operated inefficiently, the urban manager needs to know why.

Because resources are limited, the urban manager wants to know about the effectiveness of each dollar spent. Useful cost analysis is dependent on a financial information system which identifies the cost of providing various types of services and serving various target groups. Cost-effectiveness analysis can be computed in terms of cost comparisons which combine cost-effectiveness measures with cost information based on unit costs for various activities.

Cost can be examined and analyzed in many different degrees of detail, depending on the availability of data and the uses to be made of the analysis. Information on costs by activity is useful for management purposes because it indicates, in general terms, the distribution of resources in relation to objectives, to plans, and the total number of persons served. Examples of basic cost comparisons include:

- Cost ratios, e.g., administrative costs: total cost
- Average/unit cost relationships
- Average cost comparisons, e.g., cost effectiveness of various strategies

These comparisons attempt to estimate the relationship between outcomes and the cost of achieving those outcomes. Cost measures can be expressed as a ratio or index in terms of the dollars invested per individual served or incidence of service provided. Cost-effectiveness measures will aid in making decisions to achieve the optimum allocation of available resources.

IMPACT EVALUATION

Impact evaluation attempts to measure the extent of net change (institutional/community/individual) brought about by the program. This implies a relative measure where changes and achievements are measured in relation to the achievements and changes which might have occurred without the program.

Impact evaluation focuses on answering the question, "What difference did it make?" and attempts to assess not only the intended consequences (objectives) but also the unintended consequences. Saying that impact evaluation focuses on the extent to which the project objective is realized is an over-simplification, because there is also an implicit commitment to examine the adequacy with which an objective has been formulated. Sometimes a project objective is inappropriate as stated--either in relation to the nature of the project or in relation to the overall objectives. Sometimes the objective does not reflect the real purposes, as in the case of projects which exist for purely political purposes.

PLANNING SUPPORT

Planning support evaluation is concerned with providing the data to support planning efforts. It most often includes collecting and analyzing such data as: demographic; labor market; population trends; and marketing trends. A health planner might need population trends, mortality and morbidity figures, and communicable disease data as well as data on current facilities and useage. Whereas, a physical planner might need population trends, land data use, contour maps to identify slope of evaluation and special market studies. Or planning support evaluation might include an assessment of planning and results in similar localities.

PROCESS

Process evaluation is concerned with the way things happen and why. This includes an analysis of key actors, key events, key problems and their solutions. It is an analysis of the *process* whereby a project or program produces the intended and unintended results that it does produce. It is usually descriptive and diagnostic.

MONITORING

Monitoring is a way of collecting routine data in an orderly and systematic manner. Implementing these various kinds of evaluation will call for both special data collection efforts and routine data collection efforts. Monitoring is the assessment of managerial and operational efficiency through periodic reports, visits and other managerial techniques. The usual reason for monitoring is to give managers data about how their projects are going, to see if they are being run efficiently, and if they have competent staffs. These reporting systems are not evaluation *per se* but furnish useful data on services provided, populations served, and the cost of providing services.

The urban manager must be aware of the different types of evaluation and the different uses made of evaluation in order to select the most appropriate form to meet local needs. Despite functional differences, almost all departments and agencies must answer three questions concerning the programs they evaluate:

- Is the program effective?
- Would another program or modification of an existing one be more effective?
- Which delivery mechanism is most efficient?

The most widely used types of evaluations are those which help to answer these questions.

ROLES FOR EVALUATION

A PLANNING TOOL

Through evaluation the manager has an instrument for creating change. Information derived through evaluation may lead to changes in: the mix of projects; the process of decision making; the systems developed; and the emphasis placed on various activities.

Information derived from evaluation efforts allows replanning to take place. Replanning takes place on an ongoing basis and allows for a re-examination of the initial planning effort. During replanning, objectives are examined in light of additional information. Perhaps objectives will merely be modified (scope), or perhaps current objectives will be replaced by new objectives, formulated to respond to changing conditions. Current strategy is also assessed to determine its applicability in a changing environment. During replanning, evaluation information provides the manager with a basis for changing priorities related to the project design and/or project mix.

A MANAGEMENT TOOL

Evaluation is an organized way of providing information for local decision making. There are many management decisions to be made throughout the strategic planning process. For example, information is needed to improve the allocation of resources or determine staff training needs. By providing feedback, evaluation provides a way for project staff to be accountable to the community, the contract and the urban manager.

Once projects have been identified and plans drawn up for implementation, a YES answer should be the response to such questions as:

- Is there internal consistency?
- Have data needs been identified?
- Does each project have measurable objectives and defined outputs?

If NO is the answer, then the entire process should be re-thought before going on to implementation. Following operation, evaluation questions such as:

- Are things going according to plan?
- Has there been or will there be a change in the problem?
- Did it make any difference in the problem that the project was implemented?

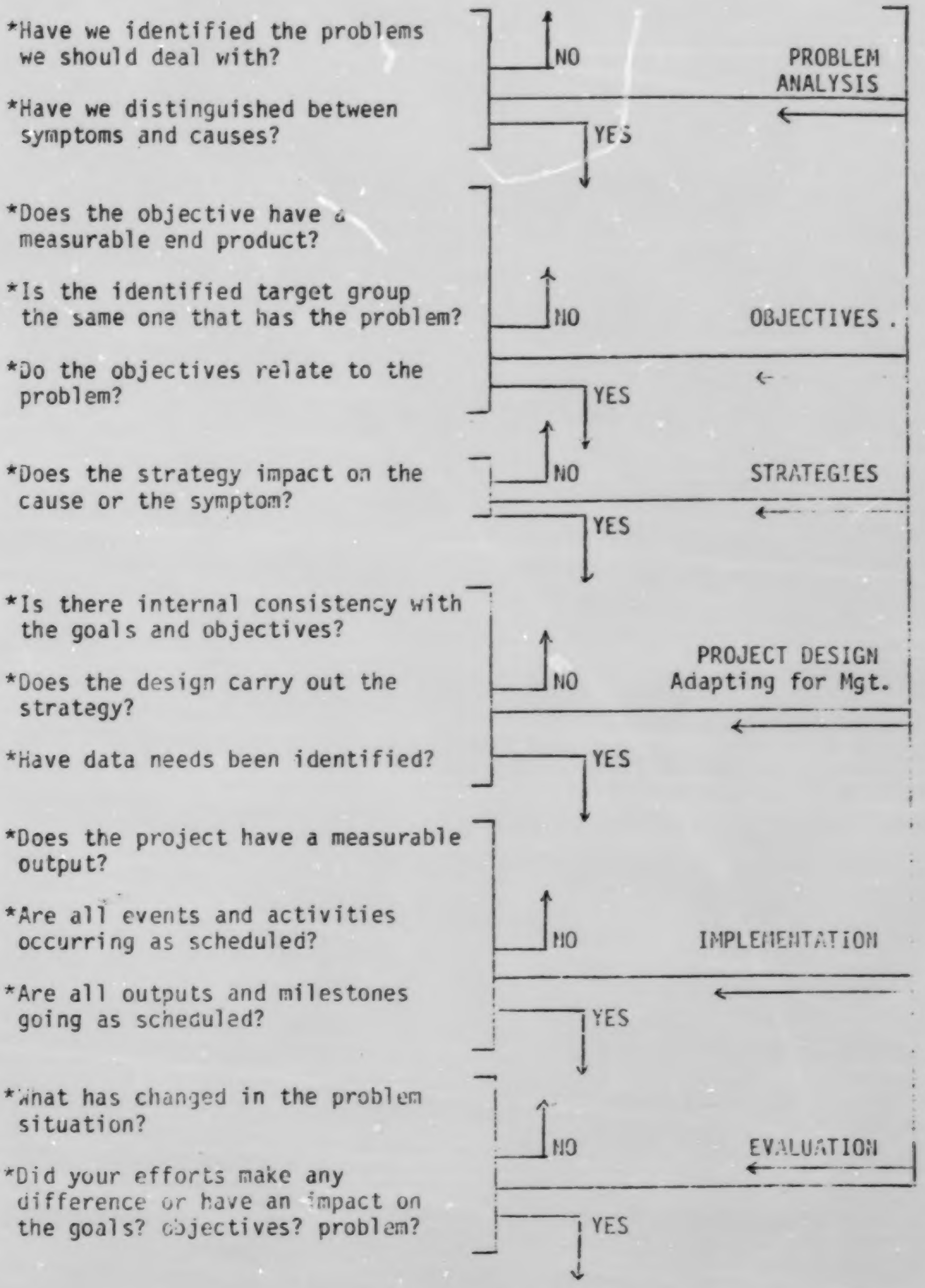
should receive a definite YES.

If NO is the answer, then the strategy and the project design need to be re-thought and replanning needs to take place.

The sequence of the evaluation decision checks in the strategic planning process and the iterative nature of the sequence can be seen in the diagram on the following page.

In addition to being an iterative process, the evaluation decision points flow process should also be viewed as a "go/no-go" process. Whenever an evaluation question receives either a negative response or a response indicating that there is no answer, the urban manager should not go ahead to the next step in the process but instead should go back to the earlier step. Should the urban manager choose to go ahead in spite of the lack of proper response, then the manager is building failure into the strategic planning process.

GUIDE QUESTIONS DURING THE PLANNING PROCESS



*Have we identified the problems we should deal with?

*Have we distinguished between symptoms and causes?

*Does the objective have a measurable end product?

*Is the identified target group the same one that has the problem?

*Do the objectives relate to the problem?

*Does the strategy impact on the cause or the symptom?

*Is there internal consistency with the goals and objectives?

*Does the design carry out the strategy?

*Have data needs been identified?

*Does the project have a measurable output?

*Are all events and activities occurring as scheduled?

*Are all outputs and milestones going as scheduled?

*What has changed in the problem situation?

*Did your efforts make any difference or have an impact on the goals? objectives? problem?

NO
YES
PROBLEM ANALYSIS
NO
YES
OBJECTIVES
NO
YES
STRATEGIES
NO
YES
PROJECT DESIGN Adapting for Mgt.
NO
YES
IMPLEMENTATION
NO
YES
EVALUATION

SECTION III

PREPARING FOR EVALUATION

The evaluation process can take several forms. On the one hand, one person may develop objectives, identify criteria, and develop survey instruments without any input from the outside world. This person then announces, after a thoughtful investigation, that everything is wrong and must be discarded. This approach tends to diminish the value placed on evaluation results. An alternative to this is the evaluation meeting (or series of meetings).

THE EVALUATION MEETING

The evaluation meeting allows an opportunity for those parties having a vested interest in the outcome to agree in advance as to what should be evaluated, in what depth, and with what criteria. Participants to an evaluation meeting should include: the person who developed the project; the person who will be managing the project; a representative from the citizen group (or a representative from each of several citizen groups); and, if appropriate, a representative from the client group.

These individuals have the responsibility for first developing criteria for the selection of targets for evaluation. After the criteria have been developed, potential targets are identified and matched against the criteria. Once the specific targets for evaluation have been identified, the participants then reach a decision as to which target should be evaluated in depth and which should receive a superficial evaluation. This decision might be based on the same criteria (for selecting targets) or it might be appropriate to develop new criteria. The participants to an evaluation meeting would then have the responsibility for identifying the criteria for success, especially for those projects to be evaluated in depth.

It is unlikely that the evaluation meeting will be a single meeting. It is more likely to be several meetings over a period of time with representatives seeking approval and concurrence from their constituents. The manager may find it impossible for all the key actors to meet together. In that case, the manager would need to meet separately with all the key actors at the completion of each step. The manager also insures that the results of each meeting are made available to all the key actors.

Having individual meetings does lengthen the planning for evaluation process. However, it helps insure that the key actors have "bought into" the program and have a vested interest in its success. It also helps to insure that all the participants to the process will be looking for the same indicators of success. In addition, the participants to the meeting will provide a base of support for the manager.

ESTABLISH PROCEDURES

Setting priorities is a process of selecting what to evaluate. However, this does not necessarily mean excluding any projects, programs or decisions from the evaluation process. Rather it implies that some decisions will be given early attention or that evaluation of some projects will be more rigorous than others.

Setting priorities requires a procedure in which the whole range of decision situations is narrowed down to a reasonable number to be evaluated. There are many procedures for setting priorities. The exact process used is less important than insuring that there is a process for determining evaluation priorities.

No manager should expect staff to perform an in-depth evaluation of each activity or at each level of the organization. Some activities should receive a comprehensive evaluation, others need receive only a quick-and-dirty evaluation, and some need not receive any evaluation at all.

Evaluation decisions which will impact on the entire organization might be based on the following criteria:

- o how will this decision affect the overall goal?
- o is the decision likely to be influenced by evaluation input?
- o is this a decision which will influence future or recurring decisions?
- o does hard data exist to help make this decision--if not, is it available within a reasonable cost and time frame?

Evaluation decisions concerning whether or not to evaluate a project/activity might well be based on these criteria:

- o is this project going to be faced with important decisions in this fiscal period?
- o are any changes likely to be made in the project as a result of evaluation information?
- o how does the expected impact of this project compare with other projects relative to cost, people served, and potential for institutional change?
- o how does this project compare in terms of visibility?

IDENTIFY USERS

Evaluation should be designed to be responsive to the needs of the decision makers. There is no way to insure responsiveness unless this rule is followed.

> When making a decision about what to evaluate, always involve the users of the evaluation.

Who are the decision makers? Although this varies from locality to locality, there are two kinds of people who should be involved. The first type are those who will actually make the decisions--administrators, project managers, city officials. The second group includes those who do not make decisions but who influence them--staff, citizens groups.

At the same time the decision situation is being identified, it is necessary to identify the user of the information. In advance of the actual time of decision making, the user should be able to determine:

- the frequency of the need for information
- the format the information should be in
- the scope/depth of the information.

CRITERIA

From a management perspective, evaluation is not easy to do. One does not order an evaluation with the same ease that one might order a subscription or a box of pencils. Because evaluation is or should be an ongoing process, the cost can be very high in comparison to the availability of resources. Thus, it becomes important to make some decisions on what should be evaluated, to what extent should they be evaluated (depth and frequency), what measurements should be used for evaluation? These questions should be answered before the evaluation design is developed because the responses to these questions will influence the framework of the evaluation design. The evaluation meeting described in the section on preparing for evaluation would be an excellent place to begin to answer these questions. The stages involved would include:

- identifying and selecting the criteria for selecting what is to be evaluated
- assessing the possible targets for evaluation against the selected criteria
- identifying and selecting the criteria to determine the extent of evaluation efforts

- determining the extent of the evaluation for each of the selected targets
- identifying and selecting the criteria for selecting the final set of measures
- assessing the possible range of measures against the selected criteria.

It becomes apparent that the development and use of criteria becomes an important step in using evaluation to serve management needs.

CRITERIA FOR SELECTING THE PROGRAM/PROJECT

While the criteria themselves may vary depending on whether it is a single project or a complex program or perhaps an amalgamation of programs such as might occur on a federal government level, the process is similar if not identical. In order to select the most vital projects/programs, these criteria may prove helpful:

- size of budget
- potential impact
- linkage to other programs/projects
- potential for institutional change
- importance to constituents
- relationship to overall goals
- potential for continuing without special funding

Implicit in the selection of these criteria is the assumption that programs/projects will either affect institutional change or affect community awareness and self-determination which would then create an environment in which incremental change (in the problem) could take place.

Before implementing an evaluation based on the above criteria, it would be appropriate for all concerned individuals to take part in the selection process. This could take the form of an evaluation meeting or it could take the form of each interested party receiving a copy of the criteria and then agreeing/disagreeing/adding other criteria. This same process could be used for assessing each program and project against the agreed upon criteria. In both instances, the manager must work toward a resolution of any significant differences which arise. The penalty for not taking the time to involve all interested groups (persons) will be either noncooperation with evaluation efforts or a delegitimizing of the final evaluation results. Either one or both could jeopardize the using of evaluation results for management purposes.

DETERMINING THE EXTENT OF EVALUATION

Typically, the scope and depth of the evaluation effort will be determined by organizational capability based on existing staff, time and money limitations. The same or different criteria can be used in developing the overall evaluation strategy. Thus, an assessment might result in:

- all programs and projects being evaluated by staff in terms of their performance
- a selected program being evaluated by staff for performance and impact
- priority projects being evaluated by staff for both performance and impact
- an agency evaluation being performed by an external consultant
- priority programs and projects being evaluated by consultants in terms of a process evaluation.

CRITERIA FOR SELECTING MEASURES

While the measures themselves should be reflective of local needs, the criteria for selecting the measures can be very specific or they can be somewhat general [Hatry, 1976] as in:

IMPORTANCE: Does the measure provide useful and important information (on the program/project) which justifies the difficulties in collecting, analyzing or presenting the data?

VALIDITY: Does the measure address the aspect of concern? Can changes in the value of the measure be clearly interpreted as desirable or undesirable, and can the changes be directly attributed to the program or project?

UNIQUENESS: Does the information provided by the measure duplicate or overlap with information provided by another measure? While duplication is usually not desirable, there may be a specific instance where duplication is desired to substantiate other responses.

ACCURACY: Are the likely data sources sufficiently reliable or are there biases, exaggerations, omissions, or errors which are likely to make the measure inaccurate or misleading?

TIMELINESS:	Can the data be collected and analyzed in time for the decision to be made?
PRIVACY:	Are there concerns for privacy or confidentiality which would prevent analysts from obtaining the required information?
COSTS:	Can the resource or cost requirements for data collection be met?
COMPLETENESS:	Does the final set of measures cover the actual aspects of concern?

The specific criteria selected should represent the needs of the organization. In one organization, "completeness" may be an important criterion whereas "timeliness" may not be.

Once the criteria have been selected, then all possible measures are assessed against each of the criteria. Such criteria and measures may be as shown on the following page.

SUMMARY

To have the greatest payoff, evaluation results should be followed by an analysis of alternative ways to achieve program objectives. Such an analysis should include the possible variations of the existing programs as well as entirely new approaches. Insuring this analysis is the responsibility of the urban manager.

The manager must also insure that follow-up decisions are made as a result of evaluation findings. Program modification decisions should lead to an explicit modification schedule. New approaches should also have a work schedule with a time frame.

While an evaluation may indicate deficiencies in program planning or project implementation, it does not necessarily mean poor management exists. Poor management exists only where there is no attempt to modify or change for the sake of improvement or increased impact on the target group.

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TRANSPORTATION OBJECTIVE AND ASSOCIATED EVALUATION MEASURES[1]

OBJECTIVE

To provide access to community services, facilities, and employment in a safe, quick, comfortable, and convenient manner for all segments of the community without causing major harmful side effects.

Evaluation Measures

Accessibility and Convenience
1. Percent of residents not within "X" distance of public transit service and more than one hour from key destinations.
2. Citizen perception of travel convenience.

Travel Time
3. Time required to travel between key origin and destination points.
4. Congestion--duration and severity of delay.

Comfort
5. Road surface quality ("bumpiness") index.
6. Citizen perception of travel comfort.

Safety
7. Rate of transportation-related deaths, injuries, and incidents of property damage.
8. Number of transportation crime incidents.

Minimum Cost to Users
9. Costs per trip.

Maintenance of Environmental Quality
10. Noise level along transportation corridors and number of persons at risk.
11. Air pollution attributable to transportation sources and number of persons at risk.

General Public Satisfaction
12. Citizen perception of adequacy of transportation services.

Monetary Costs
13. Program costs.

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[1] Modified from material presented by Harry P. Hatry, et al., Practical Program Evaluation for State and Local Government Officials (Washington, D.C.: The Urban Institute, 1973), and R. E. Winnie and Harry P. Hatry, "Measuring the Effectiveness of Local Government Services: Transportation," The Urban Institute, 1972.

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USING EVALUATION WORKSHOP I (2 hours)

INSTRUCTIONS: Individually review the project design packet. Working as a group, identify those decisions in the strategic planning process that will be affected by evaluation information. Remember that some decisions will not be affected by evaluation information. These identified decision situations should be noted on the attached matrix sheets. You should have some decision situations for each phase of the strategic planning process.

EXERCISE: Place on attached sheets.

USING EVALUATION WORKSHOP
PROJECT DESIGN PACKET

City Goals:	o Maintain sense of community o Insure sufficient financial resources to maintain a high level of public services
City Sub goals	o Insure citizen participation at all levels of government o Insure a mixed (residential-commercial-industrial) tax base o Insure a viable business community
City Objectives	o Have 100% of city departments utilizing a strategic planning process by 1985 o Have 100% of city departments utilizing a management by results system by 1985 o Obtain, by 1985, outside funding for 60% of the operating programs o Provide home ownership opportunities for all persons regardless of economic status
Department:	URBAN RENEWAL
Department Objectives:	o Increase by 25% the amount of monies derived from property taxes on new commercial properties over the amount of property tax on new commercial property in 1968 o Increase dwelling units whose cost will not exceed 25% of the occupant's income from 50 to 200
Department Strategies:	o Provide for rehabilitation of existing commercial and residential properties to increase their taxable value o Solicit new commercial ventures o Build new dwelling units (rental/ownership)
Projects:	o Economic Development Corp. o Marketing Study of CBD

USING EVALUATION WORKSHOP

PROJECT DESIGN

Selected Project:	o Economic Development Corp.
Project Objective:	o Within 3 years, to have 10 new commercial ventures, meeting criteria, located in Rockville
Project Strategy:	o Recruitment
Project Outputs:	o Availability of low interest loans
	o Solicitation of new businesses
	o Indications of interest
	o Loans applied for/secured
Ongoing Project Activities:	o Identify commercial properties needing rehabilitation
	o Ongoing task force for solicitation
	o Ongoing source for loans
	o Arranging low-cost loans (2 points below market)
	o Ongoing media campaign
One-Time Project Activities:	o Develop criteria for seeking specific kinds of commercial ventures
	o Organize task force
	o Criteria for needing rehabilitation
Project Inputs:	o Listing of commercial properties
	o Listing of potential task force members
	o Listing of loan sources (banks/other)
	o Materials for media campaign
	o Coordinator Economic Development Corp.
	o Developer of media materials

Project Inputs (Cont'd):

- Director of media campaign
- Coordinator of task force efforts
- Coordinator of loan efforts
- Developer of criteria
- Developer of presentation (TF) materials

Milestones:

List of criteria to aid in identifying commercial spaces most likely to fulfill objectives

- Formation of task force
- List of loan sources
- Completion of media campaign
- Presentation package
- # rehabed properties
- # commitments of new commercial ventures

ECONOMIC DEVELOPMENT CORP

MILESTONES

Time Frame	Milestone
	o Establishment of corporation
	o Criteria for new commercial ventures
	o Criteria for commercial spaces to be rehabilitated (set standards)
	o Establishment of task force (traveling road show)
	o Agreed sources of low-interest loans
	o Identify commerical properties needing rehabilitation
	o Hire staff
	o Locate space
	o Develop advertising campaign
	o Develop promotional materials for traveling road show
	o Identify potential commercial ventures
	o Commitments of new commercial ventures
	o Commitments for loans
	o Completion of rehabilitation
	o Completed contracts of new commercial ventures
	o Evaluation of process
	o Evaluation of impact of Economic Development Corporation
	o Develop an evaluation plan
	o Submit proposal for SBA502 funds
	o New assessment code drafted

Time Frame	Milestone (Continued)
	o New condemnation procedure drafted o New property inspection criteria drafted o New assessment code authorized o New condemnation procedures authorized o New assessment code authorized

USING EVALUATION WORKSHOP II (2 hours)

INSTRUCTIONS: Working as a group, identify the kinds of evaluation information needed to make those decisions identified in the first workshop.

EXERCISE: Place on attached sheets.

USING EVALUATION WORKSHOP I & II (2 hrs./2 hrs.)

Dept.______________________

Proj.______________________

	IMPLEMENTATION PHASE		OPERATION PHASE	
	Decision	Info. Needed	Decision	Info. Needed
Policy				
Planning				
Management				

USING EVALUATION WORKSHOP I & II (2 hrs./2 hrs.)

Dept.________________________

Proj.________________________

	OPERATION PHASE		SPECIFICATION PHASE	
	Decision	Info. Needed	Decision	Info. Needed
Policy				
Planning				
Management				

USING EVALUATION WORKSHOP III (2 hours)

INSTRUCTIONS: Working as a group, identify the criteria which will enable you to evaluate the results of the decision. For example, if the decision was to implement a management information system, what criteria will allow the manager to determine the effectiveness of that management information system?

EXERCISE: Place on attached sheets.

PROJECT ______________________

Kind of Decision	Decision	Criteria for Effectiveness

USING EVALUATION WORKSHOP IV (2 hours)

INSTRUCTIONS: Working as a group, identify those criteria which enable you to measure your effectiveness in accomplishing the overall plan.

EXERCISE: Place on attached sheets.

PROJECT ____________________

	Criteria for Success
Performance	
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INSTRUCTION GUIDE

LONG RANGE AND STRATEGIC PLANNING FOR URBAN MANAGERS

Modules 1 - 8

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Package III

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SAMPLE WORKSHOP OUTPUTS

INTRODUCTION

INTRODUCTION

OVERVIEW

Long Range and Strategic Planning for Urban Managers has been designed for in-service training to enhance the planning-management skills of those in urban management.

This course was designed around the following concepts:

- The model presented be one to structure thought, not merely a model for writing plans---designed by and for practitioners rather than utilizing an academic approach.
- The units are sequential and mutually dependent, in that particular units build on information presented earlier, and, therefore, should be given in order.
- The material can be integrated into a classroom lecture format, but it is designed for a small group learning experience, providing an opportunity to internalize the concepts learned through the lectures, reading, workshops, exercises and critiquing discussions.
- The curriculum could be used as a reference manual once a participant has returned to the work environment.
- The lectures present concepts which are applicable to a broad spectrum of situations and the workshops allow the application of concepts.
- The time spent in discussing the workshop outputs reinforces participant understanding between the concept and the situation.
- The time spent in discussing workshop outputs enables participants to see the variety of approaches which are available in each decision situation.
- Participants learn by doing and from each other.

To insure that this curriculum met the requirements of practicality for in-service and pre-service training; adequacy of content, and replicability both an Advisory Committee and an Assessment Team were developed.

The Advisory Committee consisting of three public administrators (a city manager, the executive assistant to a county manager, the president of a state American Society for Public Administration) and an academician, was responsible for providing input concerning the practicality of the 4-day curriculum. The Advisory Committee was to review and comment on 1) an identification of topics to be covered, 2) an outline of the course content and the instruction guide, and 3) an initial draft of modules 1-7.

In addition, an Assessment Team comprised of an urban practitioner and a specialist in adult education, was responsible for the design, development and implementation of an evaluation design to assess how well the requirements were met.

Three 4-1/2 day test presentations were given to evaluate the content and method of presentation as the curriculum was being developed. Information and feedback provided by the participants were incorporated into subsequent presentations. Part of the requested feedback included an identification of a follow-up technical module which would provide in-depth coverage to material briefly covered in the core curriculum (modules 1-7).

The participants in each course represented a wide range of job skill and management levels backgrounds. This heterogenous grouping was then used to help determine which type of function/management level could best benefit from training with this curriculum. This final package is based on input received from the Assessment Team, the Advisory Committee, and the National Training and Development Service, and the participants themselves.

During the third session, the trainer altered the process of the training design. This included:

- Taking time, before the first formal lecture, to demonstrate, with a flow chart, the relationship the workshop outputs have to each other.
- Taking time, before the first formal lecture, to allow the participants to introduce themselves.
- Taking time, during discussions to allow participants to provide examples from their own organizations.
- Taking time, during lectures to give an example mentioning a participant or participant organization by name.
- Taking time, during workshops, to talk with individual participants to assess how well they understand the concepts and how they will be able to use the concepts in their own organizations.

As a result, the workshop outputs of the third test session were of a much higher quality than the outputs of other sessions. In addition, it took substantially less time for participants (third session) to grasp the interrelationship of the component parts of the strategic planning process.

OBJECTIVES

Anyone of the alternative models of presentation should provide the means for the participants to acquire the necessary skills to achieve the overall course objectives. Upon completion of the course, participants will be able to:

- appreciate the rationale for using the strategic planning process
- apply and recognize techniques appropriate to the component parts of the strategic planning process
- demonstrate an understanding of the interrelationship among the parts of the strategic planning process
- develop an implementing plan evolving from the strategic planning process

The degree to which these learnings have taken place will determine the quality of the final presentation.

INSTRUCTOR QUALIFICATIONS

In addition to the general knowledges and skills required of the trainer in order that the participant be able to leave the training situation having specific skills, the presenter of Long Range and Strategic Planning for Urban Managers should have work experience as: a manager in state or local government; a social rather than a physical planner; and training experience in the area of management skills building including such topics as decision making, MBO, priority setting and resource allocation.

DESCRIPTION OF AUDIENCE

Long Range and Strategic Planning for Urban Managers has been developed to appeal to a wide variety of practitioners from many different areas of functional specialization, e.g. housing, education, transportation, and community development. It functions for participants of various educational levels, ranging from doctorates to bachelor degrees; and at various levels in the organizational hierarchy, from high level administrators to junior staff members and field managers.

MANAGEMENT DEVELOPMENT CENTER

The Management Development Center of Maryland is a training organization offering assistance to public agencies in developing effective management. The Center seeks to augment, not to supplant, agency efforts in managerial staff development by providing a full range of management training and consulting services including assessing organizational training needs and tailoring courses for in-house use.

The Center is a unit of the Maryland Department of Personnel. It is supported in part by a grant from the U.S. Civil Service Commission under the Intergovernmental Personnel Act of 1970. Its goals are to:

- improve the management skills of public employees
- enhance an organization's in-house training and development competence
- link educational resources with public service training needs
- enhance an organization's ability to identify and solve problems
- advocate excellence in public service management .

FORMAT OF MODULE INSTRUCTIONS

Course LONG RANGE AND STRATEGIC PLANNING FOR URBAN MANAGERS

Course Objectives

- to appreciate the rationale for using the strategic planning process
- to apply and recognize techniques appropriate to the component parts of the strategic planning process
- to demonstrate an understanding of the interrelationship among the parts of the strategic planning process
- to develop an implementing plan evolving from the strategic planning process

Workshop Outputs

(In order to insure appropriateness and linkages of workshop outputs, Instructor MUST have reviewed the consistent case study.)

- Identification of goals, sub goals for the city identified in the consistent case study.
- Documentation and specification of a significant problem identified in the case study.
- Formulation of broad objectives and department objectives.
- Selection of a priority strategy leading to the selection of a project to impact on the significant problem.
- Development of a project design and an evaluation design coupled with an appropriate allocation of and tools for managing resources.
- Final presentation to determine if participants have learned the overall process of "fitting together" the pieces of the strategic planning process.

Materials Needed

Newsprint is optional for use by the instructor and necessary for the use of the small work groups.

Markers for writing on the newsprint

Tape, pins, magnets or other devices for securing newsprint to the walls

Prepared flip charts, graphs, and other examples from the participant manual can be made into transparencies.

Merely place that page on a copy machine that is set up for transparencies. Check with your copy machine representative.

Key Points Of Lecture	The Instruction Guide for each module contains an indepth outline which can be used for the lecture presentation of each module. The instructor has the option of omitting parts of, or adding to the suggested lecture. Examples reflective of local conditions should be included whenever possible. Whenever the instructor has taken the time to include such local examples, the training has been even more effective than when no local examples were used.
Instructions For Each Workshop	These can be found both in the Instruction Guide for each module and on the workshop sheets. The workshop sheets appear after the text in each module.
Potential Workshop Problems	These are identified for each workshop and can be found in the Instruction Guide for that module.
Criteria For Evaluating Workshop Outputs	These are identified for each workshop and can be found in the Instruction Guide for that module.
Linkage	The Instruction Guide will identify the linkage of that module to the other modules.

Time Needed	Introduction	1/2 - 1 hour
	Module I	3 hours
	Module II	4 - 5 hours
	Module III	3 hours
	Module IV	3 - 4-1/2 hours
	Module V	3 hours
	Module VI (1)	3-1/2 hours
	Module VI (11)	2 hours
	Module VII	4 - 5 hours
	Small Group Presentations	1 hour
	Minimum Total Time	27 hours
	Maximum Total Time	32 hours

RESOURCES AND ACTIVITIES

WHEN FIRST RECEIVING THIS PACKAGE

1. Review table of contents of instruction guide.
2. Review contents of instruction guide.
3. Review contents of participant manual, note the material in the introduction.
4. Notice that the written text in the participant manual is the full written out lecture for that subject area while the instruction guide contains only the highlights of each module.
5. Review the objectives of the course and the objectives of each module, these will be found in the instruction guide as well as the participant manual.
6. Become familiar with the opening statement found in the instruction guide.
7. Become familiar with the linkages of each module to the total planning process.
8. Decide whether or not to use "experts" for all or some modules, and if so, arrange for them.
9. Decide whether or not to assign outside readings, and if so, prepare a preferred reading list; suggestions are contained in each module.
10. Review the case study, this will be found in the participant manual in Module 1. If time is available, additional data related to the participants, such as housing or social services, could be fabricated and added to the case study; or, the instructor might desire to fabricate data for more recent years.
11. Since one of the major objectives of this curriculum package is that the participants will be able to demonstrate an understanding of the interrelationship among the parts of the strategic planning process it would not be appropriate to present any module alone, out of context or out of sequence. Each module has been developed to provide the basic information which will enable the participant to make the linkage between that and other modules.

PRIOR TO PRESENTATION

1. Review lecture and workshop materials.
2. Review instructions in instruction guide.
3. If desired, prepare own lecture notes.
4. Note where different examples should be used, especially those more relevant to the participants (e.g. health, housing, transportation).
5. Prepare newsprint or transparencies of key points of module using suggested flip charts located immediately following the "material needed" portion of each module in the instruction guide.
6. Prepare newsprint or transparencies of specific appropriate charts, examples, diagrams or other items of discussion which can be found in either the instruction guide or the participant manual.
7. Prepare own notes to guide discussion.
8. If desired, preselect small work groups (e.g. heterogeneous, homogeneous as to job, organization, or level of employment).
9. Insure availability of appropriate physical space for lecture/workshop - a space large enough to contain at least 4 work groups of 6 persons each in a table arrangement - a blackboard is desirable.
10. Insure availability of audio-visual equipment, stand-up easels, newsprint, marking pens, tape.
11. If desired, insert specific module instructions from the instruction guide into the participant manual immediately after the title page for that module.
12. Determine location of rest rooms and food service at the training location.
13. Decide whether to begin with "Problem Analysis" module or "Strategic Planning" module.
14. Decide the most appropriate time to have the participants introduce themselves.

TRAINING INSTRUCTIONS COMMON TO ALL MODULES

1. Arrive early and put up prepared newsprint, check attendance list, if available. Check for requisitioned equipment and supplies including name tags or cards, paper and pencils for participants.

2. Give a recap of prior session unless the prior session was given on the same day.

3. If any readings were assigned between sessions, it would be an appropriate time to have a short discussion before beginning the subsequent lecture.

4. Present lecture either by using text of suggested lecture contained in the instruction guide and/or other supplemental materials. When possible local examples should be used in the course of the lecture. The use of local examples will aid participant learning.

5. At the end of each lecture there might be a discussion of the specific points covered in the lecture, or a short discussion of how that area (e.g. Planning, Situation Analysis) is done in the individual organizations and the impact of doing it that way.

6. Review workshop instructions with the participants after they locate workshop sheets which follow suggested readings in the module.

7. Identify the current time and the time at which workshop will be over and when the workshop results will be critiqued.

8. Prior to the workshop, post the critique criteria.

9. During the workshop, participants may seek "correct" responses, these should be turned back to the participant with the comment "there are no right answers; the object is to see how the process works and should be applied, not necessarily to 'solve' Rockville's problems." Any number of answers may be "good" ones.

10. At the end of the workshop period, each work group places its end product on large sheets of paper (newsprint pads) and attaches them to the wall for the purpose of critiquing. Critiquing will be based on the criteria posted before each workshop. Exercise care to insure that discussion does not deteriorate into an analysis of the wisdom of the output.

It will be helpful to the participants in going through the strategic planning process to be able to refer to the end products of prior workshops. The most feasible way of doing this is to leave the newsprint sheets on the walls for the entire session, if presented during 4 consecutive days, or if not on consecutive days, for participants to be responsible for taking down the workshop sheets at the end of each day's presentation and then to place them up at at the beginning of the next session.

11. After the discussion of group outputs, participants may desire to revise or improve their work from this, or an earlier workshop. This would be appropriate and should even be encouraged to reinforce the idea that planning is a continuous process.

AT FIRST SESSION

1. At the start of the first session, introduce yourself or arrange for someone else to introduce you. Announce the location of rest rooms and food service; have participants make name plaques (or tags).

2. Explain to participants the basic concepts of the course (e.g. to provide in-service training, applicability across organizational lines, goal is to teach a thinking-doing process rather than merely teaching specific independent skills in each of the several workshops). These concepts can be found in the Introduction of the instruction guide.

3. After the presentation of the Introduction, have the participants identify themselves (e.g. name, employer, major work responsibility, reason for participation). Alternatively, participants could introduce themselves after the opening statement and prior to the first formal lecture.

4. Briefly summarize the reasons for attendance and then suggest that there will be something for everyone.

5. Review with participants your agenda for course (e.g. day of meeting and modules to be covered on each day).

6. If desired, let participants decide on hours of class, merely remind them that there are 32 hours of actual presentation.

7. Distribute participant manual.

8. Briefly review contents of participant manual with participants.

9. Suggest to participants that there is no need to take notes since the complete text of the lecture is contained in their manual - whenever additional information is included, they will be notified so they then have the option of taking notes.

10. Draw their attention to the overview of the participant manual which describes the relationship of the modules to the total planning process and which also contains the objectives and summary of each module. Suggest that they review this on their own, at a later time.

11. Inform participants as to final exam or final presentation - if there will be a final presentation, distribute the suggested memo found in the instruction guide, page 149.

12. Inform the participants that they will be needing the manual every day of the course.

13. Present overview of course which is entitled "Opening Statement" in the instruction guide.

14. Either after the opening statement or after the first lecture and before the first workshop would be an appropriate time to divide the participants into their small work groups. No group should be larger than 6 persons. If they have been preassigned, their manuals can have designated codes or their name tag written in advance and placed on work tables. Or participants may select their own small work group.

WHENEVER "SITUATION ANALYSIS" IS THE FIRST SESSION

Remind the participants that situation analysis can take different perspectives. One perspective identifies problems when they demand attention, e.g. complaints from citizens. Another perspective is to identify as a problem those things which will hinder the accomplishment of a goal. For this exercise, participants should consider the former and to keep in mind that the problem identified as most significant will form the basis for the goal setting workshop which follows.

The instructor should let participants know that for the forecasting exercise there is adequate data for general revenues, expenditures, and number and age of housing stock and that there is limited data available for population, income and employment. The availability of data may be a consideration in the selection of a problem to be solved.

It would be appropriate to suggest to the participants that this particular workshop is somewhat lengthy and some groups may not complete the task and that afterward there would be a discussion on what was learned by not completing the task. (i.e. about planning for data needs; trying to do too much in too little time; making assumptions; inadequate data resources.)

At the end of the suggested time period, each workshop group should present its findings - what current or future problem was identified, why was it considered a problem, what were the implications for not doing anything. For those groups that did not complete the workshop, it would be valuable for them to present what obstacles slowed them down, what they learned in the process of trying to complete the assignment, and how they would approach it next time.

WHENEVER "SITUATION ANALYSIS" IS THE SECOND PRESENTATION

Remind the participants that situation analysis can take different perspectives. One perspective identifies problems when they demand attention, e.g. complaints from citizens. Another perspective is to identify as a problem that which will hinder the accomplishment of a goal. For this exercise, participants should consider the latter perspective and use the class identified goals and sub goals to frame their analysis.

The instructor should let participants know that for the forecasting exercise there is adequate data for general revenues, expenditures, and number and age of housing stock and that there is limited data available for population, income and employment. The availability of data may be a consideration in the selection of a problem to be solved. If desired, the instructor may add new data tables to meet special needs for specialized groups.

At the end of the suggested time period, each workshop group should present its findings - what current or future problem was identified, why was it considered a problem, what were the implications for not doing anything. For those groups that did not complete the workshop, it would be valuable for them to present what obstacles slowed them down, what they learned in the process of trying to complete the assignment, and how they would approach it next time.

USING THE CASE STUDY

PURPOSE

The case-method has become an increasingly popular instruction aid in recent years. Any given case may serve a variety of functions in a training setting. We will consider a case to be a "real world" description of a situation or setting requiring analysis, planning and decisions.

In this curriculum, the Rockville case has been developed as a functional tool, with an essential, but limited purpose. It should serve as a common starting point, and reference, to enable the participants to apply the principles and techniques introduced through the lectures in the small-group workshop setting. It enables the participants to share a common fund of information; to focus rapidly upon specific problems and directions; and to try out and critique the components and techniques of the planning process.

The Rockville case does not contain sufficient information to permit participants to produce a fully developed plan for the city. The case has not been selected to give participants the opportunity to find the "right" solution(s) to Rockville's problems or to second guess the various decision-makers. It has been included to provide a convenient starting point for a forward looking process. It provides the essential sense of "what is" that informs and constrains the planning decisions of "what will be" and "what should be." The case lends a vital touch of reality to the workshops and increases the speed with which groups can make decisions.

SUGGESTIONS FOR USE

In this curriculum, the case is a starting point. Each class will probably end up at a completely different point than its predecessors. As the modules and workshops progress, the tendency will be to rely less and less upon the case information (except as background) and more and more upon the outputs of the preceding workshops. This is good, because the primary purpose of the curriculum is to transmit a sense of the essential interrelationships and interdependencies of the steps of the planning process. The students are not planning for Rockville's past, but for its future, taking the past into consideration. Thus, once the groups have determined their normative value systems, set goals, picked out problems and determined broad objectives, they may well be able to build the plan from their own knowledge, experience and preferences.

After reading the case study, the class will have sufficient information to discuss and agree upon goals and subgoals for Rockville. Note that much of what follows in the plan will depend upon the values adopted at this first choice point. Some groups may opt for emphasizing increased population growth, others limited or no growth and some may even decide to plan for a decrease. Similarly, the thrust may be on economic or residential development or it may be on developing population diversity. The case will provide a rapid estimate of the starting point, and the magnitude of the work ahead to realize the goals that are selected. The case will also supply sufficient "hard data" to permit the small groups to agree on specific objectives, and to apply rudimentary forecasting techniques.

The instructor will have to take special care to insure that the sessions don't get bogged down in lengthy discussions of whether any given group product will or will not "solve" the case problems. There isn't time. The concern should be with correct application of the technique being demonstrated and with meeting the criteria suggested to define appropriate application. For example, if a group develops an objective statement: "To reduce the maximum rush hour traffic travel time from any border to center city to 20 minutes," don't allow involved debates over whether 15 minutes or 30 minutes would be a "better" objective. Steer the critique back to the basics - i.e. "is it measurable?" "is it ambiguous?" etc. It usually helps to point out that in the "real world" there is more time, and more expertise available to discuss and fine tune the actual measurable levels specified in objectives. Point out that by writing, even tentatively, a clear objective, you can stimulate discussion and may arrive at a better objective.

In the classroom setting, however, the instructor will find that it is possible to encourage the participants to make whatever assumptions become necessary to continue the assignment at hand, and to proceed as if these assumptions were fact. Every group will not have the technical information at their fingertips that is necessary to make the decisions their project leads them towards (i.e., time or cost factors, client analysis, space requirements). Let them "invent" the data necessary to proceed (cost estimates, consultants' reports, etc.) and allow these assumptions to go unchallenged as "givens."

Finally, the Rockville case materials will still prove useful as a reference as group projects are designed and presented in the latter phases of the curriculum. The instructor and participants should still consider the potential impact of proposed projects (the plan) upon the situation described in the case, as well as upon the other goals, objectives, and projects developed by the other groups.

CHANGES IN THE CASE

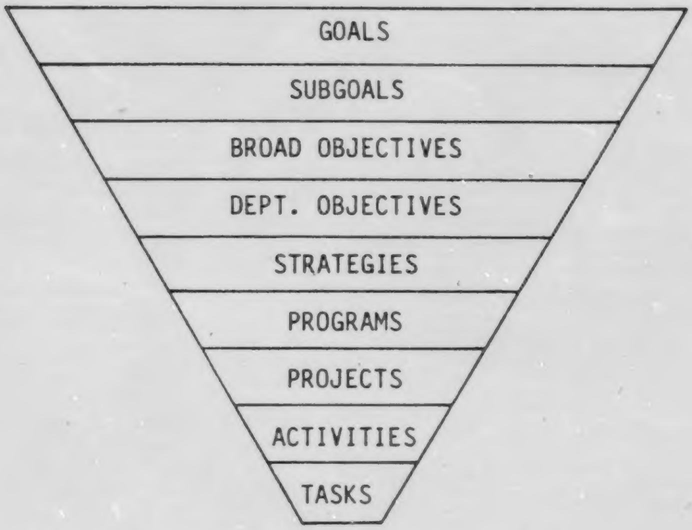
The curriculum package does not depend upon the exclusive use of the Rockville case study, although this study was developed expressly for these modules. Individual instructors may find it useful to include additional material to supplement the basic information provided. This is especially true if the course is being presented to a group with special needs or interests. In such a case, the instructor may choose to develop additional data or situations appropriate to specific settings such as health, housing/community development, public safety or transportation. The instructor may choose to "modify" the situation or data presented for Rockville to suit individual preferences. It would even be possible to substitute a different case description for the Rockville one with no major difficulties, provided the instructor is careful to substitute a case with equal or more depth.

Before making an entire case substitution, it is essential that the instructor read and understand both the Rockville case and all of the lecture and workshop materials. The new case should include the same kinds of supporting materials: history with similar time span; specific problems - past, present, future; multi-year data for projections; supporting materials (map, organization chart, budgetary information). Too much material will be time consuming, confusing and superfluous. Although no field tests have been made with different case material; substitutions might be most suitable if the participants have a special need or perspective - i.e. a very large metropolitan city, a regional perspective or a small rural setting. (The Rockville model does work as an instructional tool in a variety of settings such as employees of the City of Cincinnati.)

OPENING STATEMENT

OPENING STATEMENT

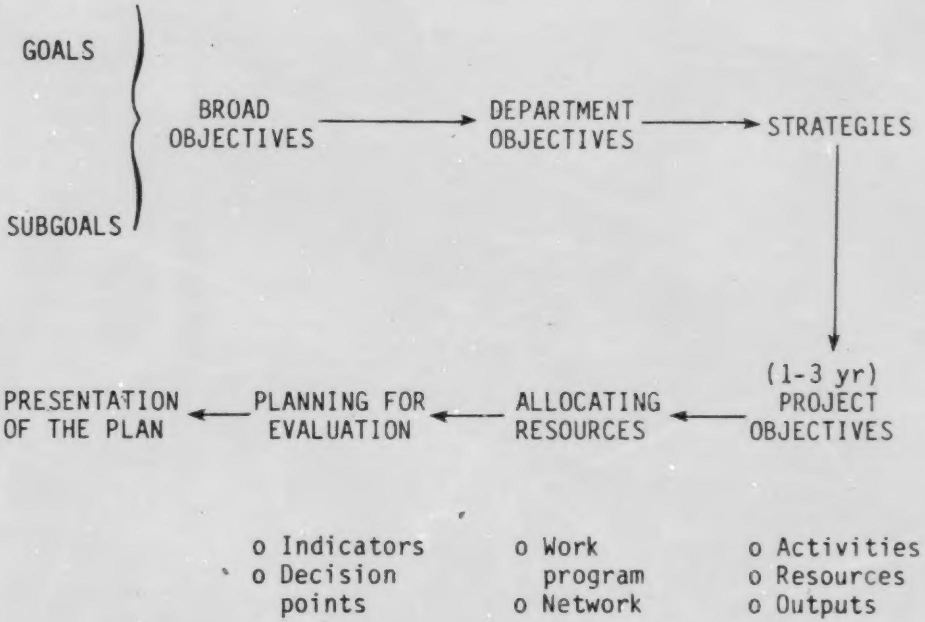
Before beginning the first formal lecture, I would like to demonstrate the relationship (hierarchy) which exists among the components of the strategic planning process.


GOALS
SUBGOALS
BROAD OBJECTIVES
DEPT. OBJECTIVES
STRATEGIES
PROGRAMS
PROJECTS
ACTIVITIES
TASKS

The long range goals and sub goals will be developed in the workshop immediately following the first lecture which is "Strategic Planning". Both broad objectives and department objectives will be formulated in the objective setting workshop. Then strategies will be identified, a project selected and specified. A plan for allocating and managing resources as well as a plan for evaluation will evolve toward the end of the course. The final output of the groups will be the formal presentation which will be your chance to demonstrate your understanding of the strategic planning process.

Another way to understand these relationships is to see them in the perspective of being the end products from each of the workshops. Notice that the output of each workshop becomes the input for the next workshop.

WORKSHOP OUTPUTS


GOALS
SUBGOALS
BROAD OBJECTIVES
DEPARTMENT OBJECTIVES
STRATEGIES
(1-3 yr) PROJECT OBJECTIVES
ALLOCATING RESOURCES
PLANNING FOR EVALUATION
PRESENTATION OF THE PLAN
o Indicators
o Decision points
o Work program
o Network
o Activities
o Resources
o Outputs

*sub goals may be a long range desired end state in an area of limited focus, e.g. health/mental health; or it may be a short-range desired end state with a comprehensive focus.

Notice that you will begin the planning process with a macro approach which extends over a long period of time. Each workshop further defines the approach until a specific project is designed. After this, the management processes are developed and integrated into the planning process. All your hard work should lead to something--and so the final activity is the presentation of the plan. And so, at the end of this course each group will be responsible for making a formal presentation to a panel representing the city council of the case study.

Each lecture will highlight the written materials. Following the lecture will be a workshop with the development of a specific end product as the assigned task. The ability to complete the task will be governed by an understanding of the concepts covered in this and prior modules. The important thing to remember is that there are no wrong decisions nor any right decisions. There are only better decisions. As you complete each module, think about the relationship it has to previous modules. Thinking about these linkages will help you to provide a framework for learning and for the final presentation.

Strategic Planning, the first module, links the major elements in the planning chain of logic. The products for the specification of the plan and its adaptation for management purposes are described. The lecture describes a process by which an urban manager moves from the problem to identifying objectives, and then to the strategies. In addition the lecture describes the process of moving from long-range goals to short-range operational planning.

Situation Analysis, the second module, includes isolating the causes from the symptoms; determining the extent of the problem; and, deciding on an appropriate level of involvement. The participant is then exposed to a model which generates alternative strategies based on an identification of the causes.

Setting Objectives, the third module, presents a definition of objectives and describes their relationship to the planning process.

Strategy Development/Decision Making, the fourth module, is presented in the context of focusing on the causes of rather than the symptoms of identified problems. The lecture defines strategies and presents examples of the linkage role which strategies play between objectives and projects. The portion on decision making will expose participants to various qualitative and quantitative decision making techniques. The lecture includes identifying criteria for qualitative decision models and the applicability of quantitative techniques to the sequential decision making process.

Then, Project Design stresses the role that the project plans in moving from the conceptual planning stage to the actual implementation. The development of project objectives, strategy, outputs, activities and inputs are examined to demonstrate their relationship to the problem causes and the goals and objectives.

Adapting for Management Purposes, the sixth module, presents techniques for allocating and managing both fiscal resources and time/staff resources. The advantages and disadvantages of such tools are line item budgets, program budgets, programming planning budgets and the combination budget are stressed. The use of time lines, detailed management plans, PERT, level of effort charts, and staffing requirements are stressed as techniques for managing non-fiscal resources.

Planning for Evaluation, the seventh module, stresses the ongoing role of evaluation as it relates to management needs. The use of performance, impact, planning support and process evaluation are discussed. Even though this module on evaluation is last, you will have to think about evaluation from the very beginning of the planning process. This diagram illustrates how evaluation performs an essential function at each planning process. At each decision point, evaluation questions must receive a positive response before proceeding to the next step.

GUIDE QUESTIONS DURING THE PLANNING PROCESS

Situation Analysis

- Have we identified the problems we should deal with?
- Have we distinguished between symptoms and causes?

Objectives

- Does the objective have a measurable end product?
- Is the identified target group the same one that has the problem?
- Do the objectives relate to the problem?

Strategies

- Does the strategy impact on the cause or the symptom?

Project Design

- Is there internal consistency with the goals and objectives?
- Does the design carry out the strategy?
- Have data needs been identified?
- Does the project have a measurable output?

Operation

- Are all events and activities occuring as scheduled?
- Are all outputs and milestones going as scheduled?

Evaluation

- What has changed in the problem situation?
- Did your efforts make any difference or have an impact on the goals? objectives? problem?

Module 1

STRATEGIC PLANNING

Module 1	STRATEGIC PLANNING
Module Objectives	1. To become aware of the interrelationship of the component parts of the strategic planning process. 2. To appreciate the rationale for formulating goals and sub goals. 3. To demonstrate an ability to write goals and sub goals.
Lecture Summary	The major planning products are linked in a planning chain of logic. The products for the specification of the plan and its adaptation for management purposes are described. The lecture describes a process by which an urban manager can move from a problem, to identifying goals and objectives, from the problem causes to the strategies. The lecture also describes goal and sub goal development.
Workshop Output	Identification of common goals and sub goals for the city described in the case study.
Materials Needed	Supplies - Newsprint, markers, tape AV - Optional use of Flip Charts Other - Workshop Sheets (Goals/Sub Goals)

FLIP CHARTS FOR
STRATEGIC PLANNING

STRATEGIC PLANNING

- History
- Specification
- Adapting the plan for management purposes
- Preparing for implementation
- Operation
- Goal development

HISTORY OF PLANNING

- Prior to 1949, there was little coordination in local planning
- In 1949, federal funds were provided for development of local master plans
- In 1960s, local communities received categorical funds
- In 1960s, first federal mandate for review-and-comment by regional planning agencies
- In 1970s, shift away from categorical programs to federal revenue sharing

PHASE I

SPECIFICATION OF THE PLAN

- o Goals/Subgoals
- o Situation analysis
- o Broad objectives
- o Strategies
- o Alternative projects
- o Project design

PHASE II

ADAPTING THE PLAN FOR MANAGEMENT PURPOSES

- Allocating resources
- Planning for evaluation
- Lobbying
- Submission

PHASE III

PREPARING FOR IMPLEMENTATION

- Contracts
- Identify staff
- Insure resources
- Get all management systems in place

PHASE IV

OPERATION OF THE PLAN

- Monitoring
- Evaluation
- Modification
- Replanning

Key Points of Lecture

Strategic planning is the process of determining where you want to be and deciding on an appropriate means to get there. It involves a significant time span. (We will use 10-15 years for these modules.) It provides a coordinated approach to managerial decision making. The model will move from the general to the specific, the long range to the short-range, from broad strategies to precise activities and budgets.

TURN TO
MODULE OUTLINE
FLIP CHART

Planning has always meant different things to different people. For some it has meant Federal intervention and control. For others it has meant having a "wish list" that had nothing to do with economic or political reality. As a result, there was ambiguity, lack of coherence, and overlapping of local efforts.

BRIEF HISTORY OF LOCAL PLANNING

In 1949, the Federal government attempted to bring order to local planning efforts by providing funds for the development of local master plans. This was only the beginning of over 1,000 categorical grants (specific purpose) e.g. open space 1961, mass transit 1964, water/sewer 1965, and advanced land acquisition 1965. These were all based on the idea of comprehensive planning.

TURN TO
BRIEF HISTORY
FLIP CHART

1966 - Demonstration Cities Act (Model Cities)
1966/1968, review and comment by a regional planning agency was required for all federal grants having regional impact. e.g. housing, manpower, transportation, open space, poverty, health facilities.

These all required the establishment of a planning agency. These all resulted in conflicts among community groups. The comprehensive plan was influenced by local politics, federal regulations, citizen participation and scarce resources.

Disillusionment became widespread:

- o about the ability of federal government to influence cities
- o resistance to more public spending
- o those charged with planning responsibilities had no AUTHORITY

Within past few years:

- o planning responsibilities given to those with authority
- o shift away from categorical - REVENUE SHARING

Increasing numbers of federal legislation requires comprehensive planning by state and local governments. e.g. Law Enforcement Assistance, Mental Health, Title XX.

Whether done on a federal, regional, state or local level, whether done by departments, agencies, offices, corporations or advisory groups - planning must be done in a systematic way.

Whether done for long range, short range, or operational basis, planning must be systematic and organized.

This systematic approach has been called comprehensive planning, strategic, long range planning and rational planning.

PHASES OF STRATEGIC PLANNING

Unlike other planning models, the strategic planning process does not have to be accepted by the total organization. Whether followed by the total organization or by a single office -- the steps toward implementation are exactly the same --

TURN TO
PHASES
FLIP CHART

- o identify where you want to be
- o identify some ways of getting there
- o look for milestones to insure you are going in the right direction

FOCUS OF STRATEGIC PLANNING

- interrelationship between various parts of the planning process
- allows for Planned Change
- anticipates future decisions

Logical relationship demonstrates the linkages involved in the various decisions one makes while moving from GOAL SETTING to PROBLEM ANALYSIS to OBJECTIVES to the STRATEGY to the PROJECT and through EVALUATION.

This movement occurs in four phases:

- specification of the plan
- adapting the plan for management purposes
- preparing for implementation of the plan
- operation of the plan

Phase I, Specification involves six activities:

1. Statement of broad direction, general intent (goals)
2. Situation analysis (assessment)
3. Broad objective formulation
4. Strategy identification
5. Alternative project identification
6. Plan preparation (projects)

Phase II, Adapting The Plan For Management Purposes involves five activities:

1. Preparation of budgets
2. Preparation of work program
3. Planning for evaluation
4. Lobbying and gaining support
5. Plan submission

Even though the planning process occurs in four phases, this curriculum will address only the first two phases, which were described in brief and will now be discussed in depth.

PHASE I: SPECIFICATION

TURN TO
SPECIFICATION
FLIP CHART

1. Goals
   - o provide framework for direction
   - o long range in span
   - o idealistic in nature
   - o indicate desired condition

1a. Sub Goals
   - o limited area of concern
   - o stress specific points of focus
   - o consistent with goals

2. Situation Analysis
   - o assess nature and extent of problem
   - o identify gap between what is and what should be

3. Objectives
   - o measurable statements of intended outcome
   - o specific as to time
   - o advance organization toward goal

4. Identification of Strategies
   - o action statement
   - o describes how the CAUSE will be attacked
   - o provide the linkage between the cause and the project

5. Identification of Projects
   - potential for implementing strategy
   - potential for impact on problem
6. Project Design
   - project objectives
   - necessary resources
   - specific activities
   - results of each activity

Now, the plan has been specified.

It is during this phase that the details of the plan are drafted and future management needs are anticipated.

PHASE II: ADAPTING FOR MANAGEMENT

1. Allocating Resources
   - the budget (line or program) detail will be based on both internal management needs and funding source requirements.
   - the work program allows for systematic identification of:
     - critical dates
     - achievable outputs
     - work flow
     - staffing requirements

TURN TO
ADAPTING
FLIP CHART

These elements provide the foundation for GANTT, Level of Efforts Charts and PERT/CPM.

2. Planning For Evaluation
   - develop indicators of success
   - what will be evaluated
   - for what purpose

   - in how much depth

3. Lobbying
   - gaining support - political, community, other agencies will vary with local values
   - should begin early
4. Submission
   - form will vary

PHASE III: PREPARATION FOR IMPLEMENTATION

1. Selecting/Assigning Staff
2. Contracts Negotiated
3. Relationships Formalized
4. Getting Systems in Place

TURN TO
IMPLEMENTATION
FLIP CHART

PHASE IV: OPERATIONS

1. Reviewing Management Structure
2. Providing Technical Assistance
3. Monitoring
4. Replanning

TURN TO
OPERATIONS
FLIP CHART

CONCULSION

Today more than ever, local decision makers are called upon to be accountable to the taxpayers. The strategic planning process provides management with a tool for providing that accountability.

GOALS AND SUBGOALS

Since all planning requires intent and direction, we begin the process with goal development. This step defines the end toward which efforts are directed. A goal is a broad direction, statement showing general purpose or intent. It is long range and it is not concerned with a particular achievement within a specified period of time. Benefits of having a goal statement include:

- the process of coming to consensus can provide new insights into the nature of the organization, its priorities and values
- utility of having a direction statement which acts as a focal point for the entire planning process
- can also be used to strengthen the argument for recommending and building support for specific courses of action emerging from the planning process

Examples of goal statements include:

- to provide a setting for retired citizens to reside with dignity, maximum self sufficiency and comfort, while providing structured opportunities for social and recreational activity (a retirement community)
- to insure a range of available housing to meet the needs of a wide segment of the state's population, regardless of race, marital status, socioeconomic status or religion (a county housing opportunity commission).

The goal development process may start with a series of questions.

- What is our community like now?
- What should it be like?
- What is the role of city government?
- What should the role be?
- How would the community be described 15 or 20 years from now if it were functioning ideally?
- Whom do we want to attract?
- How large? Why?

Subgoals

Subgoals deal with a narrow portion of the goal. Subgoals may cover a more limited time frame or they may span the same time period but deal with specific segments or functions. They may also be developed for specific client groups or client outcomes.

They should be consistent with the goal. Subgoals serve to:

- stimulate discussion
- build consensus
- structure priorities

Examples of subgoals for the retirement community include:

- to maintain easy access to low cost comprehensive health care for all residents
- to provide a physical setting which promotes maximum mobility and convenience for all residents

Remember, no planning process is complete if it stops with goal development. Goals are a beginning, the horizon toward which we will structure the actual plan.

Workshop Instructions

1. Read case study and review attachments.
2. As a group, identify several goals for Rockville. Remember that goals describe the direction the city hopes to take over the next 15 years.
3. Each small group presents their goals. After processing each group's output, all participants select one goal. It may be a compromise.
4. May be appropriate to discuss indicator of success.

Subgoals

1. Working as a group, identify 4 subgoals to carry out the goal selected by all the participants. Remember, the subgoals describe what the city hopes to accomplish in the next ten years.
2. Each small group presents its subgoals. After processing the outputs, all participants agree on common subgoals.
3. May be appropriate to discuss criteria for success.

Potential Workshop-Problems

Goals should relate to Rockville.

Goals should be specifically stated.

Goals should provide a base for the planning process.

Goals should be compatable with those of other work groups.

Criteria For Evaluating Workshop Outputs

Goals

- Goal should be long range.
- Goal should be general in nature and not be quantified.
- Goal should cover multiple concerns.
- Goal should describe a desired future state or condition.
- No jargon.
- Apply to case study.

Subgoals

- Subgoals can be mid-range and cover the same broad areas of concern.
- Subgoals should not be quantifiable.
- Subgoals can cover limited areas of concern in the same time span as the goals.
- Subgoals should evolve from GOAL and be consistent with goal.

Linkages The common goals and subgoals developed in this session provide the base for the development of objectives in a later session.

Time Needed

Lecture - 1 hour

Workshop - (GOALS) - 1/2 hour

(SUBGOALS) - 1/2 hour

Process - varies with number of groups

(a) 2 groups - 1/2 hour)
(b) 4 groups - 1 hour) for both goals and subgoals

Module 2 SITUATION ANALYSIS

Module Objectives

1. To use pre-determined goals to focus on problem areas.
2. To demonstrate an ability to distinguish problem causes from problem symptoms.
3. To demonstrate an ability to apply an elementary rate of change forecasting model.

Lecture Summary

The lecture will include isolating the causes from the symptoms; determining the extent of the problem using one forecasting model; and deciding on an appropriate level of involvement. Participants will be exposed to a model which generates alternative strategies based on an identification of causes.

Workshop Outputs

1. Problem Identification (symptoms/causes)
2. Problem Documentation (forecasting/analysis)
3. Problem Specification

Understanding the many variables and constraints which are involved in problem analysis are more important for the participant than arriving at an answer or completing the workshop exercise. Even if the exercise is not completed, participants will learn the need:

- to focus on defining the problem
- to focus on identifying the specific information needed
- to state the real problem e.g. lack of diversified housing vs. lack of access to diversified housing
- to identify the acceptable standard

Materials Needed

Goals/Subgoals from Workshop #1

Newsprint, markers, tape, scratch paper

Problem Analysis Workshop (4 pp)

1 calculator for each group (recommended)

FLIP CHARTS
FOR
SITUATION ANALYSIS

SITUATION ANALYSIS

- Problem identification
- Data consideration
- Data collection
- Data analysis
- Drawing conclusions

DATA ANALYSIS

- Index numbers
- Time series
- Forecasting

ISSUE ANALYSIS

- Determine existence of issue
- Identify nature/parameter of issue
- Identify key actors and their positions
- Determine level of involvement
- Recommend solution

ORGANIZATION ANALYSIS

- Identify resource
- Review performance record
- Review activity level
- Review structure

Key Points of Lecture

SCOPE OF SITUATION ANALYSIS

TURN TO MODULE OUTLINE FLIP CHART

Situation analysis is a very important part of the strategic planning process because everything that follows is based upon the conclusions drawn and recommendations made at the completion of the analysis. Thus, it is critical to assess the situation, define the problems, and distinguish symptoms and causes with the highest possible level of precision. In some planning models this would be known as the "needs assessment" phase.

Situation analysis is never easy. You will either be confronted by too much information or not enough information.

When scanning the situation for problems, it is a good idea to begin with the goals and subgoals. There are several ways one might begin to identify a problem.

- o perception of the problem (existence/extent)
- o indicators

If problems are identified first, goals may be developed to address significant problem areas.

After developing goal and subgoal statements, it is advisable to identify a variety of potential indicators which would provide information as to the current state of that goal or subgoal. The assessment of these indicators would thus provide a focus for situation analysis.

Conversely, the goal statements might evolve out of a comprehensive situation analysis, e.g. What is right or wrong with this community?

DATA ANALYSIS

1. Identify needs

demographic	labor market
geographic	economic
transportation	housing

health

TURN TO DATA ANALYSIS FLIP CHART

2. Data Collection

   - o written sources (public records, logs, agency publications)
   - o human sources (experts, clients, influence makers)
   - o observation (traces of prior activity or formal observation of people/events/things)

3. Analysis of Data

   - o mathematic techniques (linear and multiple correlation, regression analysis, chi-square)
   - o statistical techniques (decision theory, index numbers, analysis of time series)
   - o forecasting

Forecasting is a useful tool - it can be as basic as a "guesstimate" or as sophisticated as Mathematical Model Building. Most important, it provides a way of knowing what a situation will look like several years from now. Whether or not a problem will exist will probably depend on how a problem is defined. e.g., "what is the allowable limit on number of deaths, number of TB cases, rate of blight, or amount of lag time in responding to requests.

Thus, forecasting will provide the data but only you (the organization) can determine from the data if a problem will exist at some point in the future.

To demonstrate the steps involved in forecasting, the following example from a local health department will prove helpful.

A		B	C	D	E
Year		No. of cases per 1000 screenings	% of total (1000)	Increase since previous year	Annual rate of change
-	1969	15	1.5%	-	-
Y1	1970	19	1.9%	4	27%
Y2	1971	26	2.6%	7	37
Y3	1972	35	3.5%	9	35
Y4	1973	45	4.5%	10	29
Y5	1974	57	5.7	12	27

Col. A = the years for which information is available

Col. B = the extent of the condition

Col. C = percent of total

Col. D = change in condition since previous year

Col. E = Annual rate of change

$[E = D/B]$

RC = the average annual rate of change (the number we are looking for)

Y = the earliest annual rate of change

Y_5 = the most recent annual rate of change

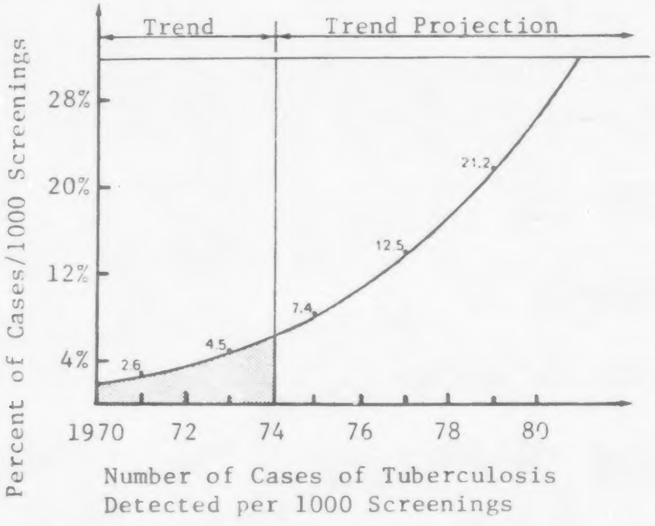
C = the sum of the coefficients

$$RC = \frac{Y1 + Y2 + 2(Y3) + 3(Y4) + 4(Y5)}{C}$$

Thus, the health department can expect the condition to continue to occur at a 30% [3] rate each additional year. This 30% rate is equivalent to 74 instances in every 1000 cases for 1975. Continuing this same application to subsequent years shows the projections to be:

A	B	C	D	E
Year	No. of cases per 1000 screenings	% of total (1000)	Increase since previous year	Annual rate of change
1974	57	5.7%	12	27%
1975	74	7.4%	17	30%
1976	96	9.4%	22	30%
1977	125	12.5%	29	30%
1978	163	16.3%	38	30%
1979	212	21.2%	49	30%

The projected increase in the actual number of instances can be vividly shown by graphing the data.



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3. A 7% RC indicates that a condition will double in size approximately every ten years; a 15% RC indicates that a condition will double in size approximately every five years; and a 30% RC indicates that a condition will double in size approximately every 2 1/2 years.

Next, substitute the data in the matrix to the appropriate place in the formula. The average annual rate of change is then applied to the last year of known data.

A new matrix is derived by assuming that each subsequent year will increase by 30%.

4. Drawing Conclusions

After analyzing the available data and making projections, you will be stating your conclusions. No matter how good your data, it will be worthless unless presented in a way in which is clearly understood. Problem analysis is the process of comparing what "is" to "what should be" happening. This statement of what should be happening becomes "the bottom line" - perhaps the most difficult aspect.

Future strategies and projects will be linked to conclusions drawn during situation analysis. Thus, it is critical to define the problem, its symptoms and causes, with the highest possible level of precision.

The Kepner - Tregoe method is frequently used to define a problem.

By identifying the differences between the IS and IS NOT state, the manager is better able to identify the possible causes of the deviation.

Perhaps the most important part of the Kepner - Tregoe model is that it forces one to focus on why this difference occurs. Identifying this difference enables the manager to distinguish between the causes and the symptoms of the problem. The better the analysis, the better the strategy that will be selected.

ISSUE ANALYSIS

TURN TO
ISSUE ANALYSIS
FLIP CHART

Sometimes the problem will not be one of the facts. but will be a situation where different groups have a different perception of the "problem." An example of an issue is whether or not a gate should be installed at the railroad crossing or a set of signal lights installed in front of the school. This issue must also be analyzed.

1. Identify existence/scope
2. Identify key actors/positions
3. Identify appropriate level of involvement

ORGANIZATION ANALYSIS

TURN TO
ORGANIZATION ANALYSIS
FLIP CHART

Recommendations for solving data problems or issue problems should not be made until there has been an assessment of the capabilities of the organization. Such an assessment should include:

1. assessing the strengths/weaknesses
2. assessing the availability of resources
3. identifying prior accomplishments/failures
4. reviewing activity level
5. reviewing the internal structure

RECOMMENDATIONS

A careful analysis of all available information regarding the situation will enable the manager to determine:

- Which parts of the problem are most significant
- What are the causes/symptoms
- What resources are necessary for alternative actions

Once the manager has done this much, the remaining step is to make a decision and to recommend a solution to the "problem". In those instances where more than one solution would be available, the manager might develop a criteria matrix (see Module 4 - Strategy/ Decision Making).

1. Identify criteria
2. Identify possible solutions
3. Match solution to criteria

SUMMARY

The statement of the problem:

1. "Bottom line" of what is acceptable identified
2. Should be specific (what, where, when, how much, frequency, who)
3. Documents a suspected problem
4. Not a shotgun approach to find all possible problems

Workshop Instructions

1. After reading the case study and reviewing the attachments, list those things which appear to be problems. As a small group, identify symptoms and causes of these problems. After completing this portion, select one, which if left untouched, would prove to be detrimental to the City of Rockville. This would be the most significant problem.
2. For the problem selected, use the forecasting model to determine the scope and magnitude of the problem. Round numbers to thousands and round decimals to whole numbers for ease in computation.
3. For the problem selected, use the Kepner-Tregoe model to define parameters of the problem, and to determine the "why".

Potential Workshop Problems	o Participants should be notified that this is a lengthy workshop. o Some work groups may not complete the task. These work groups should be encouraged to share with the group some of the other learnings which took place even though they did not complete the exercise. o Tendency to be vague and non-specific about the problem. o Necessity of "rounding-off" numbers to save time in forecasting exercise. o Reluctance to focus on the possible cause.
Criteria For Evaluating Workshop Outputs	o Documents a suspected problem o Not a shotgun approach to find all possible problems o "Bottom line" identified
Linkage	Provides documentation for identified problems. Suspected causes provide a framework for the development of strategy.
Time	Lecture - 1 hour Workshop - 2 hours Process - 2 hours

Module 3	SETTING OBJECTIVES
Module Objective	1. To appreciate the rationale for formulating objectives. 2. To demonstrate an ability to write objectives meeting stated criteria.
Lecture Summary	The setting of broad objectives is presented in the framework of the goals and subgoals . The lecture presents a definition of objectives and describes the relationship of objectives to the planning process written at various organizational levels.
Workshop Output	Participants will develop broad objectives related to the goals and subgoals applicable to the case study. Department objectives will also be identified.
Materials Needed	Newsprint, markers, tape Goals/Subgoals from Workshop #1 Objective Setting Workshop (1 page)

INSTRUCTION GUIDE

FLIP CHARTS
FOR
SETTING OBJECTIVES

OBJECTIVES

- Levels
- Specificity
- Considerations for selection

LEVELS OF OBJECTIVES

- Organizationwide
- Departmental
- Program
- Project

SPECIFICITY

- What is to be accomplished
- Who is to be served
- Within what time frame
- How much is to be accomplished

CONSIDERATIONS FOR SELECTION

- Consistent with organization goal
- Realistic
- Appropriate to the need
- Impact on other objectives
- Probability of success
- Will reaching the objective be worth the effort

Key Points of Lecture

The goals and subgoals have been articulated. The problem has been analyzed and specified. It is now appropriate to narrow the focus and state what is to be accomplished in the more immediate future. This statement of intent is the objective. It is quantifiable and so it is something for which the organization can be held accountable.

TURN TO
MODULE OUTLINE
FLIP CHART

LEVELS OF USE

TURN TO
LEVELS
FLIP CHART

1. organization wide - evolve from and are consistent with subgoals
2. departmental - consistent with organizational objective or as a substitute in the absence of organizational objectives
3. program - consistent with departmental objective
4. project - consistent with program objective or in absence of program objectives, consistent with department objectives

Whenever the strategic planning process is used throughout the organization, it is likely that the project (action step) for the upper level of the organization becomes the objective (goal) for the next level and so on, down to the lowest level of the organization.

LEVELS

Mayor/City Council

Chief Administrative Officer

Departments

Bureau/Office

Program

Project

Confusion often arises concerning the difference between goals and objectives. In conversation, many people use the two terms interchangably. This can create special problems if a planning model which uses both goals and objectives is being used. In brief, remember that goals are general, objectives specific; goals are long-range with no time specified, objectives are time-bound; goals can be idealistic, objectives should be achievable.

The following chart should clarify some of the essential differences:

GOAL	OBJECTIVE
Long-range (10-15 years or more), time not exact	Shorter range (1-5 years), time specific
States general outcome or desired condition, not measured directly	States specific outcome, can be measured directly
Not appropriate for managerial accountability	Appropriate for managerial accountability
May be idealistic, a direction to strive toward	Should be realistic (reasonable probability of success)
May include multiple outcomes	Specifies single outcome or results
May use "soft" or "weak" verbs (increase, administer, facilitate, communicate, understand)	Uses "strong" or "action" verbs (increase by, complete, demonstrate by, publish, process)
Achievement is an end in itself	Achievement advances system towards goal, are consistent with goals

LEVEL OF SPECIFICITY

An objective must be quantifiable.
An objective must be specific in that it states:

TURN TO SPECIFICITY FLIP CHART

1. What is to be accomplished (single focus)

2. In what period of time

3. How much is to be accomplished especially if related to change

4. Who/what is to benefit

CONSIDERATIONS FOR SELECTION

Usually many more possible objectives are formulated than can be used. In order to select the best possible objectives, it is helpful to establish criteria and then assess each objective against each criteria.

TURN TO SELECTION FLIP CHART

These criteria might include:

1. Consistent with goals/subgoals

2. Organizational capability

3. Potential for success

4. Cost

5. Worth the effort to accomplish

6. Have a negative/positive impact on other objectives

7. Appropriate to need

8. Political realities

[Discussion of Objectives (p. III-3-7, 8, 9 - Participant Manual]

[The instructor may wish to stimulate discussion by means of transparencies or newsprint sheets of the objectives listed on pages III-3-7, 8, 9. Or the instructor may have participants open their manuals to those pages. The participants should analyze each of the objectives against the following criteria:

- is there a single identifiable end result (outcome)
- is there a specified time frame in which the result is to occur
- is it measurable (quantifiable)
- is it showing the real intent of the organization
- consistent with goals, subgoals , situation analysis, and other objectives.

Whenever there is agreement that the stated objective does not meet the criteria, the instructor should solicit from the participants recommendations as to what needs to be changed to make the stated objective conform to the criteria. Depending on the level of the participant group, the instructor may solicit responses to the question of "What would have to happen in order for this objective to be met?"]

Workshop Instructions

1. Working as a group, identify four broad objectives for the City of Rockville. These should come from and be consistent with the Goal and Subgoals.
2. As a group, review the 1969 Rockville organization chart. Select one department that might be involved in achieving one or more of the broad objectives.
3. As a group, identify 3 objectives (3 year) for your department. The department objectives are derived from and consistent with the broad objectives and should demonstrate what the department will be doing to enable the city to achieve its broad objectives.

Potential Workshop Problems

- Reluctance to be held accountable by not stating anything specific.
- Identifying a low level expectation (6 months) so that achievement is assured without effort.
- Confusing strategy "how" with the objective "what."
- When formulating broad objectives, it is best not to be too specific. Even when forming project objectives it is important not to be too specific otherwise the objective will not be completed.
- There are many models on setting objectives,each one has its own language and format. This does not advocate a specific phrasing.
- There may be confusion (based in part on perspective) as to what constitutes a goal and an objective. For example, the decision as to the best objective will vary among school board members, teachers, administrators and students.
- The time horizons (Broad - 5 year, Department - 3 year) work well in field tests. The instructor may substitute other time horizons as guides if deemed appropriate. Do not let groups get "locked in" to objectives which are too narrow (i.e. "write 6 month plan"; "select consultant".

Criteria For Evaluating Workshop Outputs

Broad Objectives

- o Relates to case study.
- o Achievable in 5+ years.
- o Quantified
- o Covers limited area of concern.
- o Evolve from and consistent with goal/subgoal.
- o Implies criteria for success.
- o Impact on other objectives

Department Objectives

- o Relates to case study.
- o Achievable in 3+ years.
- o Quantified
- o Focus on single result or end product.
- o Implies criteria for success.
- o Evolve from and consistent with goals/subgoals/ broad objectives.

Linkages

Objectives provide the base for the development of strategies. Future projects should be selected for the potential impact on the department objectives.

Time

Lecture - 1-1/4 hours

Workshop - 1 hour

Process - 1 hour

Module 4 STRATEGY/DECISION MAKING

Module Objective

1. To distinguish means from ends.
2. To recognize various types and applications of strategy.
3. To recognize various decision making techniques.
4. To demonstrate the ability to use a force field analysis to develop strategy.
5. To demonstrate an ability to use a matrix technique for decision making.

Lecture Summary

The lecture defines strategies and presents examples of the uses of strategies in achieving objectives. Various qualitative and quantitative models for decision making are presented.

Workshop Output

Participants utilize force field model to identify a variety of possible strategies for achieving department objectives. A criteria matrix will be used to select the best possible strategy for achieving the previously stated objectives.

Materials Needed

Newsprint, markers, tape and optional Flip Charts

Objective Setting Workshop

Strategy/Decision Making Workshop

FLIP CHARTS
FOR
STRATEGY/DECISION MAKING

STRATEGY DEVELOPMENT

- Formulating strategies
- Force field analysis

LEVELS

- Citywide
- Level 1
- Level 2
- Project

KINDS

- Policy
- Planning
- Management

Key Points of Lecture

Now that the objectives have been set, the next step is to develop strategies for achieving the objectives. Strategies (alternative courses of action) are the means to a specified end.

The process of formulating strategy involves:

- re-examining the situation and problem analysis
- re-examining the objectives that are to be achieved
- developing alternative strategies

One of the best methods for analyzing the problem in order to generate strategies is Force Field Analysis. Force Field Analysis provides a structured way to identify the vital factors operating in the problem situation - the "helping" forces, working toward the desired objective and the "hindering" forces working against it. After the identification of positive and negative forces (brainstorm, literature, review, etc.) the implications of the forces should be considered to develop potential strategies. Strategies flow from strengthening positive forces or reducing or interfering with negative forces.

Remember that the force field is merely a way for suggesting strategies and guiding decision making.

1. If the strategy is successful, will the problem be diminished?
2. Efforts may be directed toward other than those who have the problem.
3. Assessing current strategies. What is the current strategy? What are the problems with it? Is it internally consistent?
4. Where does the organization want to be and what kind of organization does it want to be?
5. What alternatives exist? What resources are needed by each one? What are the preferences of top management?

The following is an example of identifying several possible strategies to solve a problem:

Problem: Stolen Social Security Checks

Strategy 1	Directed toward landlords - install stronger mailboxes
Strategy 2	Directed toward recipients - pick up check at Social Security office
Strategy 3	Mail Social Security check directly to bank for deposit in recipient's account

The following is an example of identifying multiple strategies to solve a problem. Notice that each strategy makes a different assumption as to the cause of the problem.

Problem: Lack of Income

Primary Strategy:	Increasing Income	1.0
	Economic Development	2.0
	Service Delivery	3.0

Once the primary strategy has been identified, it may be necessary to employ secondary strategies in order to carryout the primary strategy. The secondary strategy, like the primary strategy, describes "how", it does not describe "what".

Strategy 1.1	Generating Income
Strategy 1.2	Supporting Income
Strategy 1.3	Substituting Income
Strategy 2.1	Attracting New Business
Strategy 2.2	Expanding Existing Business

Strategy 3.1	Increasing Established Services
Strategy 3.2	Providing Alternative Services

The following is an example of identifying several possible strategies to accomplish a goal:

Goal: Adequate revenue to insure needed service delivery to all residents.

Strategy 1	Secure additional external funding
Strategy 2	Decrease demand for services
Strategy 3	Terminate decaying neighborhoods

The wants of top management must be taken into account because it is top management which makes high level policy decisions. However, various kinds of decisions are made at all levels of the organization.

LEVELS OF DECISION

TURN TO LEVELS FLIP CHART

1. City Council/Board of Supervisors
2. Manager/Chief Administrative Officer
3. Departments
4. Agencies
5. Projects

(3–5) successive levels below the chief executive officer

KINDS OF DECISIONS
(in the strategic planning process)

TURN TO
KINDS
FLIP CHART

1. Policy - occur when manager is deciding what objectives should be, to take a stand on busing issue.

2. Management - occur when manager decides how to best schedule activities/staff to achieve the objectives.

3. Planning - occur when manager decides to change the mix, seek additional funds.

Decision making occurs during virtually all phases of the planning process. The techniques discussed might be applied to other parts of the process--anywhere that a choice must be made during the selection of goals, of objectives, or priorities, of strategies, or even of projects. Because there are always choices to be made, we will explore rational decision techniques. Any rational model requires that:

- criteria are developed to aid decision making
- information is gathered to test or compare alternatives according to the criteria
- compare and test alternatives
- select the best choice (the final selection may be a combination developed from the information assessed)

There are a variety of decision making models which can be used at every level. They are used to improve the quality of decision making and they may be quantitative or qualitative.

Identifying Criteria

- Effectiveness
- Feasible
- Acceptable

If political factors enter into a decision, then political criteria should be included also. Criteria in this category include: interest group reaction, public reaction, staff acceptance and potential consequence.

Gathering Information

For each criteria selected, determine the kind and amount of information which will be needed to test it. Information may be gathered by a phone call or by building a complex mathematical model.

Techniques

There are a large number of specific techniques available. We will merely survey a few of the many options without going into great detail for any one technique.

In any model we will be asking--if we do it, how well would it work. These include:

Probability Analysis -- appropriate whenever the value of one or more variables in the model cannot be specified but the liklihood of occurrence is known. Also possible to use this technique to estimate and compare the potential impact of program alternatives based upon past evaluations of performance.

Decision Tree Analysis -- especially useful in sequential decision making -- when the need to make a second decision is based on the outcome of the first decision. It is a variation of the simpler probability analysis but includes the element of risk. It is important to note that the decision-tree analysis does not assure the correctness of each decision but is oriented toward optimizing the average result over a period of time.

Comparing and Testing Alternatives

- Criteria Matrix - Basic
- Criteria Matrix - Variations
  - Qualitative
  - Numerical Scaling
  - Weighting
  - Pair Comparison

Operations Decisions (lower level and involving implementing the strategy)

- linear programming -- determine the best mix from several alternatives which are subject to specific constraints
- queing theory -- applicable to waiting line situations or whenever there is a need to balance the cost of time against the cost of additional equipment such as in the case of "trying to get to use the computer"

SUMMARY

The urban manager,at all levels of local management, makes a variety of decisions as they progress through the four stages of the strategic planning process. At each level there are quantitative and qualitative techniques to aid in making more effective decisions. However, these techniques must be combined with substantive knowledge about the problem or subject area.

Workshop Instructions

1. As a group, use force field analysis to analyze those forces which are most likely to help, and those most likely to hinder the accomplishments of the department objectives.
2. From this information, develop three possible strategies to reach your department objectives by year three.
3. Working as a group, identify the criteria by which a single strategy will be selected.
4. Working as a group, use the criteria matrix approach to select a priority strategy.

Note: The instructor should determine what scale should be used in evaluating the strategies according to the criteria in the matrix, i.e. 0-3, -3 to +3, etc. It is suggested that groups be instructed to use weighted criteria (1-3). The instructor may also choose to permit each group to select its own scales and standards from the options presented.

It may be necessary to instruct groups that they will have to make assumptions or "invent" information in order to evaluate each alternative against the chosen criteria. Point out that in the real world, they would have time to research the necessary information to complete the matrix properly.

Potential Workshop Problems	o go from problem to project, bypass strategy o unrealistic criteria o little attention paid to causes o avoidance of decision-making responsibility (by furnishing minority reports)
Criteria For Evaluating Workshop Outputs	Strategy o action statement o describe how, not what o relates to cause, not symptom o links problem to project(s)
Linkages	Provides a parameter for the selection of a project impact on the problem.
Time	Lecture - 1-1/2 hour Workshop - 1 - 1-1/2 hours Process - 1 - 1-1/2 hours

Module 5	**PROJECT DESIGN**
Module Objectives	1. To appreciate the rationale for having a project design. 2. To demonstrate the ability to develop a project evolving from the strategic planning process.
Lecture Summary	The lecture will stress the role that the project plays in moving from the conceptual planning to the actual implementation. The development of the project objectives, outputs, inputs, and activities will be examined to demonstrate their relationship to the problem causes as well as to the goals and objectives.
Workshop Output	Selection and development of a project design.
Materials Needed	Optional flip charts, newsprint, markers, tape Project Design Workshop

FLIP CHARTS
FOR
PROJECT DESIGN

PLANNING LOGIC

- If the inputs are provided then the activities may occur.
- If the activities occur, then the outputs may result.
- If the outputs result, then the project strategy may be achieved.
- If the strategy is achieved, then the project objective may be achieved.
- If the project objective is achieved, then the department objective may be achieved.
- If the department objective is achieved, then the subgoals may be achieved.
- If the subgoals are achieved, then the goal may be achieved.

PROJECT DESIGN

- Developing the paper plan
- Using the plan
- Components of the paper plan

COMPONENTS OF THE PAPER PLAN

- Preliminary objective
- Project output
- Project activities
- Project resources (inputs)
- Proposed budget
- Final objective

USING THE PLAN

- Requesting funding
- Reduces chances of project/ objectives failure
- Increases staff capability

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Key Points of Lecture

DEVELOPING THE PLAN

TURN TO PLANNING LOGIC FLIP CHART

The elements of the plan must bear the same logical relationship to each other as the parts of the strategic planning process.

Maintenance of the internal logic of the strategic planning process helps ensure that the project objectives will be met.

- If these inputs are provided, then the activities may be achieved.
- If these activities are achieved, then the project objective will be achieved.
- If the project objective is achieved, then the department objectives will be achieved.
- If the department objectives are achieved, then the subgoals are achieved.

TURN TO MODULE OUTLINE FLIP CHART

The plan is a crucial step in the strategic planning process for it is through the operation of the project that both departmental and broad objectives are met. In so doing, it provides the transition from the planning process to the actual operations.

The project also provides a way for the department strategy to be carried out. Since the strategy is a statement of "how", the objectives will be reached, the project then becomes the "what" statement.

COMPONENTS OF THE PLAN

TURN TO COMPONENTS FLIP CHART

1. Preliminary Objective
    - sets the framework for the rest of the design
    - is specific (ref. Module on Setting Objectives)
    - considered preliminary until determined that it can be accomplished based on available resources
    - identifies intent of the project

2. Project Strategy

   - identifies how the intent will be accomplished
   - action statement
   - optional

An example of a project strategy:

Objective: Raise the reading level by 24 months of 75% of all 6th grade students by June '78.

Strategies:
(1) change method of instruction
(2) hire additional remedial reading teachers
(3) increase total hours of instruction

3. Project Output

   - describes what the project has to produce in order to meet its objectives

4. Project Activities

   - describe what has to take place in order to get the outputs

5. Project Inputs

   - describe what money will buy in the form of resources the project needs to carry out the activities

6. Budget

   - project design, so far, is probably unrealistic because the cost has not been considered
   - approximate fixed and flexible costs for identified activity level

It may be necessary to adjust the activity level and the budget level several times until there is harmony among them.

7. Final Objective

   - a revision of the preliminary objective may be appropriate based on the availability of resources and the proposed activity level

USING THE PROJECT DESIGN

TURN TO USING FLIP CHART

The attention paid to the project design will have a payoff when the project begins to operate. Sloppy project design will result in endless crisis. Time spent dealing with crisis is time not available for management or planning.

The project design when articulated, gives everyone connected with it an understanding of what is supposed to happen and thus makes staff accountable for having it happen.

The project design contains the information about the project. The design allows others to understand how the project will actually work.

Therefore, this information should be used whenever funds for the project are being requested.

Workshop Instructions

1. Working as a group, develop a project (1-3) years to implement the priority strategy.
2. Working as a group, identify for this project: tenative project objective; project outputs; project activities; project inputs; and a revised project objective.
3. Identify some criteria for success.
4. As a group, determine what will or will not happen if the project is successful.

Potential Workshop Problems

- Difficulty staying within strategy parameter
- Uncomfortable identifying components in order - it is o.k. to do these out of sequence
- Some tendency to identify short-term (6 months) projects which would more correctly be a part of a larger project (e.g. a study prior to development)
- Very little consideration given to impact potential of selected projects

Criteria For Evaluating Workshop Outputs

Project Design

- Evolves from strategy statement
- Should impact on identified cause of problem
- Should reflect organizational resources
- Should be consistent with goals, subgoals, broad objectives and department objectives
- Follows the planning chain of logic
- Relates to case study

Project Objective

- Should be achievable in 1-3 years
- Impact on other objectives
- Should reflect the intent of the project
- Should identify single result or end product
- Objectives should be quantifiable

Linkages

The project design is the transition from the concept stage to the doing stage.

Time

Lecture - 3/4 - 1 hour

Workshop - 1-1/2 hours

Process - 1 hour

Module 6	ALLOCATING RESOURCES
Module Objective	1. To demonstrate an ability to use budget analysis and network techniques to allocate resources. 2. To identify advantages and disadvantages of major budgeting approaches.
Lecture Summary	The lecture will present techniques for the allocating and managing both time/staff resources and fiscal resources. The use of time lines, detailed management plans, PERT, level of efforts charts will be stressed as techniques for managing non-fiscal resources. The advantages and disadvantages of such tools as line item budgets, program planning and combination budgets will be stressed.
Workshop Outputs	A work program, PERT Network and combination budget for the selected project.
Materials Needed	Optional flip charts, newsprint, markers, tape Project Design Workshop Allocation of Resources Workshop I (Fiscal) Allocation of Resources Workshop II (Time)

FLIP CHARTS
FOR
ALLOCATING RESOURCES

ALLOCATING RESOURCES

- Uses
- Time resources
- Fiscal resources

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MECHANISM FOR MANAGEMENT

- Demonstrate risk of changing priorities
- Demonstrates implication of changing assignments

TIME RESOURCES

- Detailed work plan
- GANTT (time line)
- Level of effort charts
- Network planning

FISCAL RESOURCES

- Line budget
- Program budget
- Combination budget

Key Points of Lecture

The project design has been developed. Now the time to plan for the managing of the project and its resources -- staff, money, time. Many of the same tools which are used for allocating resources are also used for managing these same resources. This module will describe these tools.

TURN TO
MODULE OUTLINE
FLIP CHART

MECHANISM FOR MANAGEMENT

1. Demonstrate risk of changing priorities by jeopardizing objective achievement by effecting timely milestone achievement.

TURN TO
MECHANISM
FLIP CHART

2. Demonstrates implication of changing assignments by showing what activities will not occur by showing the cost of the change.

TIME RESOURCES/STAFF RESOURCES

1. Detailed Work Plan

TURN TO
TIME RESOURCES
FLIP CHART

   - o Activity Analysis - list all the activities that must be performed during a given period of time. As detailed as necessary.
   - o Work Program - a graphic representation of project outputs and activities. A tool for making decisions to allocate staff and time. It should include the following:

ACTIVITY	DURATION	BEGIN. DATE	END DATE	STAFF	PERSON DAYS	OUTPUT
Activity 1.0						
1.1						
1.2						
Activity 2.0						
Activity 3.0						

2. GANTT chart (time line) - presents an overview of project activities within a given time period. Shows simple relationships among activities. Alerts staff to peak periods. The beginning and end of each activity should be indicated.

ACTIVITY	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1.0 Recreational Activities	■	■	■	■	■	■	■	■	■	■	■	■
1.1 Planning	■	■	■	■								
1.2 Obtain supplies		■	■	■								
1.3 Conduct rec. Activities					■	■	■	■	■	■	■	■

3. Level of Efforts Charts

   o Activity - Time

   o Activity - Staff

   o Consultant - Staff - Time

   The amount of time (months, weeks, hours) for each staff person would be shown as:

ACTIVITY/TIME CHART

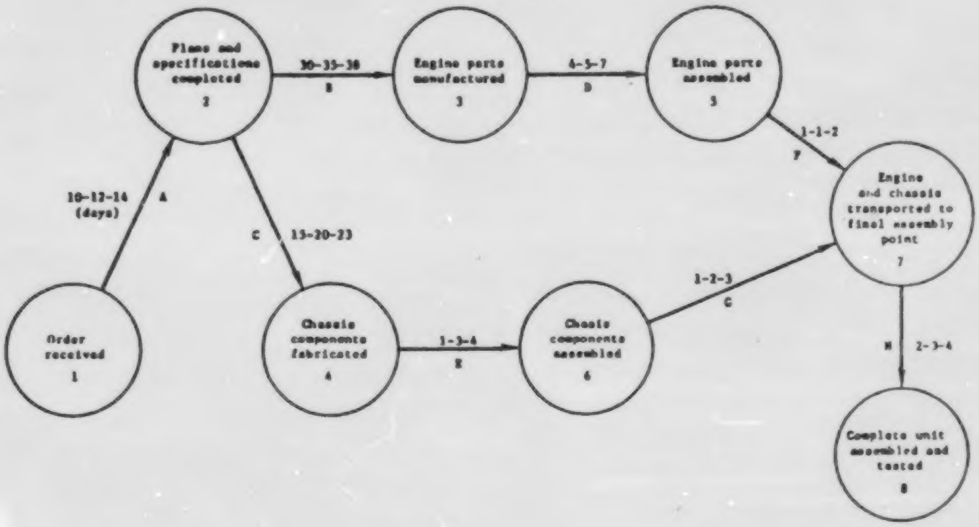
The first type is the activity/time chart which estimates the amount of time each activity will take in person-days or person-months, over a given period of time.

Activity	J	F	M	A	M	J	J	A	S	O	N	D	Total Days/Months
TOTAL													

4. PERT (Planning Evaluation Review Technique)

   - Network Planning Techniques
   - Allows manager to not only identify simultaneous activities which are dependent upon the completion of a prior activity.
   - In PERT, each circle represents an action step and the arrows represent the time between the steps.
   - Used when time is an unknown and the probability of a minimum time, average time, and maximum time is computed.

A simplified PERT Network is shown below.


Plans and specifications completed
2
30-35-38
B
Engine parts manufactured
3
4-5-7
D
Engine parts assembled
5
1-1-2
F
10-12-14 (days)
A
Engine and chassis transported to final assembly point
7
C
15-20-23
1-2-3
G
Order received
1
Chassis components fabricated
4
1-3-4
E
Chassis components assembled
6
H
2-3-4
Complete unit assembled and tested
8

FISCAL RESOURCES

1. Line Item Budget

TURN TO
FISCAL
FLIP CHART

   - traditional method of allocating financial resources
   - resources displays costs by categories
   - identifies categories of inputs but does not identify the output nor does it identify the cost of specific activities
   - not useful to the manager but useful to budget officer

2. Program Budget
   - displays costs by program
   - collects same-program costs across department lines
   - may cover a period of one year or several years
   - not useful to budget officer but useful to manager

3. Combination Budget
   - displays costs by both program and line item
   - usually covers a period of one year
   - useful to both manager and budget officer

	Line Item	1	2	3	4	5	6	7
		Rent	Phone	Insur.	Salary	Fringe	Consul.	Travel
Outreach/recruitment	P1							
Testing/selection	P2							
Counseling	P3							
Classroom	P4							
Work experience	P5							
Job placement	P6							
Administration	P7							

The combination budget, with minor modification, can also be used to monitor planned vs. actual expenditures on a monthly, quarterly or annual basis.

Reporting Period________________

	LINE 1		LINE 2		LINE 3		LINE 4		TOTAL	
PROGRAM	P	A	P	A	P	A	P	A	P	A
P1										
P2										
P3										
P4										
TOTAL										

This format enables the manager to project the cost for a particular cell (the point at which the two axes intersect) and to compare the actual with the projected cost. Thus, if there is overspending or underspending, the manager will know at a glance where the irregularity is.

When using the combination budget, the manager first fills in all the known cells. The missing cells can be filled in by weighing the programs and then applying those weights to the total of that particular line item.

If P1 is 2% of the organizational effort, then P1 should receive 2% of the total funds for each line item. This procedure is merely for estimating purposes and should not be used where data is available.

SUMMARY

For any of these management techniques to work, they must be used. That means the manager must take the time to make modifications whenever necessary and appropriate.

Workshop Instructions

TIME/STAFF

1. Working as a group, develop a work program for your departmental project.
2. Working as a group, identify the activities, time frame, staff needed, and expected output.
3. Develop a simplified PERT network to show the relationship of the activities to each other.

FISCAL

1. Working as a group, prepare a combination budget for your departmental project.
2. List the project activities (from the Project Design Workshop) and then identify line items appropriate for the project.
3. Working as a group, project expenditures for each cell and compute the totals per line and per activity. Come up with a Grand Total.

Potential Workshop Problems

- Reluctance to view budget as a planning tool.
- Tendency to select small projects with sequential rather than parallel activities.

Criteria For Evaluating Workshop Outputs

Time/Staff

- o Clarity of work program
- o All major activities should be included
- o Activities specified in work program should coincide with activities identified in the project design
- o Time frame should be realistic

Fiscal

- o Time period specified
- o Relationship between activities and cost

Linkages

The allocation of resources (process and results) determine both the real priorities of the organization and the potential for the project to impact on the goals and objectives.

Time

Lecture - 1-1/2 hours

Workshop I - 1 hour

Process I - 1 hour

Workshop II - 1 hour

Process II - 1 hour

Module 7	PLANNING FOR EVALUATION
Module Objectives	1. To become aware of the ongoing use of evaluation information. 2. To appreciate the role of evaluation in the strategic planning process. 3. To demonstrate the ability to identify indicators of project/program success. 4. To demonstrate the ability to develop an evaluation framework.
Lecture Summary	The lecture stresses the ongoing role of evaluation as it relates to management needs. The use of performances, impact, process, and planning support evaluation are discussed.
Workshop Output	Participants develop an evaluation framework including the identification of indicators of success for both performance and impact evaluation.
Materials Needed	Project Design Workshop Newsprint, markers, tape Evaluation as a Management Tool Workshop

FLIP CHARTS
FOR
PLANNING FOR EVALUATION

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PLANNING FOR EVALUATION

- Functions of evaluation
- When not to evaluate
- Some targets for evaluation
- Preparing for evaluation
- Kinds of evaluation
- Problems and constraints
- What evaluation results must be

FUNCTIONS OF EVALUATION

- Planning tool
- Management tool
- Evaluation decision points

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WHEN NOT TO EVALUATE

- Lack of clear definition of problem/intervention/outcome/impact
- In absence of clear logic in linking resources to outcome

  or

  When expected outcome is unclear
- When management lacks motivation, skill, understanding or authority to act on evaluation results
- When no decisions are going to be made based on evaluation results

TARGETS FOR EVALUATION

- Process(es)
  - evaluation
  - decision making
- Systems
  - organization
  - managerial
- Operations
  - objectives
  - outcomes
  - project participants

KINDS OF EVALUATION

- Performance
- Impact
- Planning support
- Process

PREPARING FOR EVALUATION

- Establish procedure for determining evaluation priorities
- Identify those who will be using evaluation results
- Identify decision situation
- Identify information needs
- Define process of getting information
- Specify indicator of success
- Identify measurement method
- Identify constraints
- Prepare evaluation work program

PROBLEMS AND CONSTRAINTS

- Political factors
- Time frames
- Limited resources
- Conflict in desired scope/precision
- "State of the Art" in evaluation methodology

EVALUATION RESULTS MUST BE

- What the manager needs
- Able to be replicated
- Available when needed
- Secured by all who need it
- Trusted by the manager
- In a useable form

Key Points of Lecture

FUNCTIONS OF EVALUATION

TURN TO MODULE OUTLINE FLIP CHART

Evaluation performs many functions.

- Planning
- Management/Control
- Evaluation Decision Points

TURN TO FUNCTIONS FLIP CHART

1. Planning Tool
    - reduces risk of decision making
    - insures internal consistency
    - provides instrument for change
    - provides for accountability to community
2. Management/Control Tool
    - information for local decision making
    - some function for management as audit and control are for budget
    - secure support/funding
    - provides for accountability by staff
3. Evaluation Decision Points
    - problem analysis (which problem, symptoms vs. causes)
    - objective setting (relationship to goal, measurable)
    - strategy (impact on problem)
    - operation (going according to plan, doing what it is supposed to be doing)
    - iterative process/go, no-go

WHEN NOT TO EVALUATE

TURN TO
WHEN NOT TO EVALUATE
FLIP CHART

There should be no evaluation when there is:

1. Lack of definition
   - of the problem
   - the type of intervention
   - expected outcome
2. In absence of clear logic
   - in assumptions linking expenditures to expected outcomes
3. Lack of management
4. When no decisions will be made based on information

TARGETS FOR EVALUATION

TURN TO
TARGETS
FLIP CHART

1. Process
   - evaluation
   - communication
   - decision making
2. Systems
   - organization
   - managerial
   - information
   - personnel
3. Operation
   - objectives
   - outcomes
   - participants
   - efficiency
   - effectiveness

KINDS OF EVALUATION

TURN TO
KINDS
FLIP CHART

1. Performance
   - concerned with nature of activities
   - concerned with input/ output levels
   - monitoring is a way of collecting performance data on a routine basis
   - also concerned with "why" of planned vs. actual
2. Impact
   - concerned with what difference did it make
   - focuses on unintended as well as intended
   - attempts to assess net change (institution, community, individual)
3. Planning Support
   - assessment of subject area data
   - assessment of planning and results in similar localities
4. Process
   - concerned with the way things happen and why
   - an analysis of the process whereby a program (project) produces the results it does
   - descriptive and diagnostic

PREPARING FOR EVALUATION

TURN TO PREPARING FOR FLIP CHART

1. Establish Procedure
2. Identify Users
   - information needs
   - process of getting information
   - indicators of success
   - measurement method
   - constraints
3. Prepare Work Program

CONSTRAINTS

TURN TO CONSTRAINTS FLIP CHART

- political
- time frame
- limited resources
- conflict in desired scope/precision
- "state of the art" in methodology

EVALUATION RESULTS MUST BE:

TURN TO RESULTS MUST BE FLIP CHART

- what the manager needs
- reliable (e.g. replicable)
- available when needed
- secured by all who need it
- trusted by the manager
- useable format

Workshop Instructions

1. Working as a group, identify significant management decisions for which evaluation information will be needed and which might result in changes being made.
2. Identify who (level) will be making the decision and what information will be needed.
3. Working as a group, identify what information will be needed and for whom (level) to monitor the performance of the project.
4. Working as a group, identify the information needed to assess the impact on the project.

Potential Workshop Problems

- Incorrectly confusing each action step as a management decision point.
- Participants should be encouraged to go back and revise or improve their prior workshop outputs based on the results of this workshop.
- Participants should be reminded that constant revision is core to the strategic planning process.
- Difficulty identifying decision points where evaluation information could lead to a modification or change.

Criteria For Evaluating Workshop Outputs

- Includes change as well as maintenance decisions.
- Realistic information needs.
- Was impact identified (who, what, how).
- Was thought given to how data would be used and in what time frames

Linkages

The evaluation design aids in identifying weak planning logic of earlier plans now being operated. The evaluation design can be used to improve current plans.

Time

Lecture - 1 - 1-1/2 hours

Workshop - 1 - 1-1/2 hours

Recap - 1-1/2 hours

FINAL PRESENTATION

Module FINAL PRESENTATION

Module Objective

1. To appreciate the strategic planning process and the interrelationship of its component parts.

2. To demonstrate the ability to use a strategic planning process.

Module Summary

Although the presentation provides participants with an opportunity to "show off" their creativity - the impact of the presentation is that it forces participants to verify their own internal logic as they reexamine the relationship of their work group's final project to the department objective, to the city objectives, subgoals and goals.

Through this, participants demonstrate their understanding of the relationship among the various elements of the strategic planning process. For only through an understanding of the relationship will participants be able to maintain the requisite internal logic as they move from problem analysis to goal and objective setting to setting priorities, selecting strategies, and into the project design phase.

Workshop Output

An oral/visual presentation of each group's response to the case study problems.

If the option of a final presentation is selected, the participants should be notified at the beginning of the curriculum presentation. Attached is a sample memorandum for doing this. Although the instructor could assess the final presentation, a more meaningful experience results from making the presentation to outsiders such as non-participating department heads or members of the staff of the chief administrative office. Thus, the instructor might consider selecting and briefing the panel, as to the purpose of the presentation, in advance.

Materials Needed

Workshop outputs from all workshops.

Newsprint, markers, tape

Workshop Instructions	**PARTICIPANTS**

PARTICIPANTS

1. Working as a group, identify the appropriate (e.g., beneficial to the total community, allow council to reduce the property tax base, bring Rockville closer to its GOAL as identified on the first day of the session) steps to be taken in making the presentation. Remember, the purpose of the presentation is to secure funds to improve your group's project.

2. Working as a group, identify which of the workshop outputs are appropriate for inclusion in the final presentation.

3. Working as a group, be prepared to respond to questions from the panel.

INSTRUCTOR

1. Prior to the presentation, notify the panel of the criteria as stated in the memorandum given to the participants to be used in making their decision as to the selection of a single project to receive funding.

2. Request to panel that any additional criteria be given to participants either immediately preceeding the presentations or preceeding the announcement of the winner. Information provided in advance of presentation will enable participants to have the option of modifying their presentation.

Potential Workshop Problems	N/A
Criteria For Evaluating Presentation Output	o maintains internal consistency o specifically developed for the City of Rockville o consistent with city goals, sub goals, and objectives o consistent with department objectives
Linkages	Ties together all the components of the strategic planning process.
Time	1 - 2 hours

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MEMORANDUM

TO: All Participants
"Long Range and Strategic Planning for Urban Managers"

FROM: , Instructor

RE: Participants' final presentation

In lieu of a written examination, each workshop group will, at the end of the course, make a presentation to secure funding for its project. The group presentations should demonstrate a clear understanding of the interrelationship of the components of the strategic planning process. Each group may utilize any presentation approach which it deems appropriate. No presentation shall exceed _______ minutes.

Presentation should include reference to:

- an identification of the problem including a statement defining "the bottom line"
- a statement concerning the intent of the project and its relationship to overall goals, subgoals, broad objectives
- an identification of the strategy selected
- an identification of resources needed
- an identification of necessary linkages
- identify criteria for success

SAMPLE WORKSHOP OUTPUTS

SAMPLE WORKSHOP OUTPUTS

City Goals:	o Maintain sense of community o Sufficient financial resources to maintain a high level of public services
City Sub Goals:	o Insure citizen participation at all levels of government o Insure a mixed (residential - commercial - industrial) tax base o Insure a viable business community
City Objectives:	o Have 100% of city departments utilizing a strategic planning process by 1985. o Have 100% of city departments utilizing a management by results system by 1985. o By 1985 to obtain outside funding for 60% of the operating programs. o To provide home ownership opportunities for all persons regardless of economic status.
Department:	URBAN RENEWAL
Department Objectives:	o Increase by 25% the amount of monies derived from property taxes on new commercial properties over the amount of property tax on new commercial property in 1968. o Increase dwelling units whose cost will not exceed 25% of the occupants income from 50 to 200.
Department Strategies:	o Provide for rehabilitation of existing commercial and residential properties to increase their taxable value o Solicit new commercial ventures o Build new dwelling units (rental/ownership)

Projects:	o Economic Development Corporation o Marketing Study of CBD
Selected Project:	o Economic Development Corporation
Project Objective:	o Within 3 years, to have 10 new commercial ventures, meeting criteria, located in Rockville
Project Strategy:	o Recruitment
Project Outputs:	o Availability of low interest loans o Solicitation of new businesses o Indications of interest o Loans applied for/secured
Ongoing Project Activities:	o Identify commercial properties needing rehabilitation o Ongoing task force for solicitation o Ongoing source for loans o Arranging low-cost loans (2 points below market) o Ongoing media campaign
One Time Project Activities:	o Develop criteria for seeking specific kinds of commercial ventures o Organize task force o Criteria for needing rehabilitation

Project Inputs:

- Listing of commercial properties
- Listing of potential task force members
- Listing of loan sources (banks/other)
- Materials for media campaign
- Coordinator Economic Development Corporation
- Developer of media materials
- Director of media campaign
- Coordinator of task force efforts
- Coordinator of loan efforts
- Developer of criteria
- Developer of presentation (TF) materials

INSTRUCTION GUIDE

LONG RANGE AND STRATEGIC PLANNING FOR URBAN MANAGERS

Module 8

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Department of Personnel

State of Maryland

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INTRODUCTION

INTRODUCTION

OVERVIEW

Long Range and Strategic Planning for Urban Managers is designed to enhance the management planning skills of urban managers by providing materials to support in-service training. Module 8 was designed around the following concepts:

- The model presented be one to structure thought, not merely a model for writing plans--designed by and for practitioners rather than utilizing an academic approach.
- The material can be integrated into a classroom lecture format, but it is designed for a small group learning experience, providing an opportunity to internalize the concepts learned through the lectures, workshops, exercises, and critiquing discussions.
- The material can be used as a reference manual once the participant returns to the work environment.
- Participants learn by doing and from each other.
- The lectures present concepts which are applicable to a broad spectrum of situations and the workshops allow the application of concepts.
- The time spent in discussing workshop outputs reinforces participant understanding between the concept and the situation.

To insure that Long Range and Strategic Planning for Urban Managers met the requirements of practicality for in-service and pre-service training; adequacy of content, and replicability both an Advisory Council and an Assessment Team were developed.

The Advisory Council consisting of three public administrators (a city manager, the executive assistant to a county manager, the president of a state chapter of the American Society for Public Administration) and an academician, was responsible for providing input concerning the practicality of the curriculum.

In addition, an Assessment Team comprised of an urban practitioner and a specialist in adult education was responsible for the design, development and implementation of an evaluation design to assess how well the requirements were met.

Information and feedback from participants taking part in the testing of Modules 1 - 7 resulted in the development of a follow-up technical module which would provide in-depth coverage to material covered briefly in Modules 1 - 7.

Many participants who took part in the testing of Long Range and Strategic Planning for Urban Managers (modules 1 - 7) mentioned their need for a manager's evaluation course. This need corresponded to a need we have seen for some time. For many years a review of the literature and of training programs has shown the emphasis to be on:

- an evaluation of a single entity (A process evaluation of a health service delivery system)
- an evaluation of a federal program (A process evaluation of the model cities program)
- the research aspects of evaluation
- the conceptual and theoretical basis for evaluation
- developing the evaluation design.

However, there was little information or training available that combined the theory with the practical. "Using Evaluation: A Management Perspective"is an attempt, in a training setting to provide urban managers not only with an understanding of how evaluation is part of the strategic planning process but also the skills necessary for integrating evaluation information into the decision making process.

Just as the first seven modules were developed to appeal to a wide audience, so has "Using Evaluation: A Management Perspective" been developed to appeal to a wide variety of practitioners from many different areas of functional specialization, e.g. housing, education, transportation, and community development. It functions for participants of various educational levels, ranging from doctorates to bachelor degrees; and at various levels in the organizational hierarchy, from high level administrators to junior staff members and field managers.

OBJECTIVES

Participants will demonstrate the ability to identify: evaluation related decisions within the strategic planning process; the evaluation information needed to make more effective decisions; indicators of success for the decision activity/result; the elements of an evaluation design.

INSTRUCTOR QUALIFICATIONS

In addition to the general knowledge and skills required of the trainer in order that the participant leave the training situation having specific skills, the presentor should have work experience in program evaluation as well as work experience in state or local government; social rather than physical planning; and training experience in the area of management development.

DESCRIPTION OF AUDIENCE

"Using Evaluation: A Management Perspective" has been developed to appeal to a wide variety of practitioners from many different areas of functional specialization: i.e. housing, education, transportation, and community development. It functions for participants of various educational levels, ranging from doctorate to bachelor degrees, and at various levels in the organizational hierarchy, from high level administrators to junior managers and field managers. Those who have completed Modules 1 - 7 of Long Range and Strategic Planning for Urban Managers are more likely to benefit from this course than those who have not participated in Modules 1 - 7.

TIME REQUIRED

The entire presentation will take two days. The sections will take as long as follows:

Section I - 4 hours

Section II - 4 hours

Section III - 3 hours

RESOURCES AND ACTIVITIES

PRIOR TO PRESENTATION

1. Review lecture in participant manual and workshop information found in the instruction guide.

2. If desired, prepare own lecture notes.

3. Note where different examples should be used, especially those more relevant to the participants (e.g. health, housing, transportation).

4. Prepare newsprint or transparencies of key points of module using suggested flip charts immediately preceeding the lecture in the participant manual.

5. Prepare own notes to guide discussion.

6. If desired, pre-select small work groups (heterogenous or homogenous as to job specialty, organization or level of employment).

7. Insure availability of appropriate physical space for lecture/workshop -- large enough to contain four work groups of six persons each in a table arrangement

WHEN FIRST RECEIVING THIS PACKAGE

1. Review the contents of the instruction guide especially those portions relating to the intended audience and the instructor qualifications.

2. Review the contents of the participant manual.

3. Notice that the written text in the participant manual is the full written out lecture while the instruction guide contains only the highlights of the lectures.

4. Review the objectives of the module, these will be found in the instruction guide as well as the participant manual.

5. Decide whether or not to use "experts" for all or some of the lectures, and if so, arrange for them.

6. Decide whether or not to assign outside readings, and if so, prepare a reading assignment, suggestions are contained at the end of the module in the participant manual.

7. Insure availability of a blackboard, audio visual equipment (if desired) stand up easels, newsprint, marking pens, masking tape, and name tags.

9. Determine the location of rest rooms and food service at the training location.
10. Decide the most appropriate time for the participants to introduce themselves.

TRAINING INSTRUCTIONS COMMON TO ALL LECTURES

1. Arrive early and put up prepared newsprint, check attendance list, if available. Check for requisitioned equipment and supplies including name tags or cards, paper and pencils for participants.

2. Give a recap of prior session unless the prior session was given on the same day.

3. If any readings were assigned between sessions, it would be an appropriate time to have a short discussion before beginning the subsequent lecture.

4. Present lecture either by using text of suggested lecture contained in the student manual or the highlights contained in the instruction guide and/or other supplemental materials. When possible, local examples should be used in the course of the lecture. The use of local examples will aid participant learning, and will increase the overall effectiveness of the presentation.

5. At the end of each lecture there might be a discussion of the specific points covered in the lecture, or a short discussion of how the area, e.g., "Roles for Evaluation", functions in the individual organizations and the impact of doing it that way.

6. Review workshop instructions with the participants after they locate workshop sheets which follow suggested readings in the module.

7. Identify the current time and the time at which workshop will be over and when the workshop results will be critiqued.

8. During the workshop, participants may seek correct responses, these should be responded to with the comment "there are no right answers".

9. At the end of the workshop period, each work group places its end product on large sheets of paper (newsprint pads) and attaches them to the wall for the purpose of discussion. Exercise care to insure that discussion does not deteriorate into an analysis of the wisdom of the output.

   It will be helpful to the participants in going through the workshops to be able to refer to the end products of prior workshops. The most feasible way of doing this is to leave the newsprint sheets on the walls for the entire session, if presented during two consecutive days, or if not on consecutive days, for the participants to be responsible for taking down the workshop sheets at the end of each day's presentation and then to place them up at the beginning of the next session.

10. After the discussion of group outputs, participants may desire to revise or improve their work from this, or an earlier workshop. This would be appropriate and should even be encouraged to reinforce the idea that evaluation is a continuous process.

MANAGEMENT DEVELOPMENT CENTER

The Management Development Center of Maryland is a training organization offering assistance to public agencies in developing effective management. The Center seeks to augment, not to supplant, agency efforts in managerial staff development in providing a full range of management training and consulting services including assessing organizational training needs and tailoring courses for in-house use.

The Center is a unit of the Maryland Department of Personnel. Its goals are to:

- improve the management skills of public employees
- enhance an organization's in-house training and development competence
- link educational resources with public service training needs
- enhance an organization's ability to identify and solve problems
- advocate excellence in public service management

Module 8

USING EVALUATION: A MANAGEMENT PERSPECTIVE

Module	USING EVALUATION: A MANAGEMENT PERSPECTIVE
Module Objectives	The objectives of this module are to provide participants with the skills and techniques to: identify evaluation related decisions within the context of the strategic planning process; identify the evaluation information needed to make more effective decisions: identify and select the indicators of success for the decision results; and, to identify elements of an evaluation design.
Workshop Outputs	o Decisions needing evaluation information o Specific evaluation information needed o Indicator of success for the action/activity o Evaluation design for department/project (optional)
Time	Two days
Materials Needed	Newsprint is optional for instructor. Easel or other device if newsprint is to be used for flip charts. Newsprint is desirable for use by small groups/masking tape, pins, magnets (depending on walls), markers for writing on newsprint. Workshop sheets are contained in the participant manual immediately following the text.

FLIP CHARTS

FOR

EVALUATION: A MANAGEMENT PERSPECTIVE

STRATEGIC PLANNING PROCESS

- Specification Phase
- Adapting for Management Phase
- Implementation Phase
- Operation Phase
- Decisions to be made

LEVELS

- Citywide
- Level 1
- Level 2
- Project

KINDS

- Policy
- Planning
- Management

KINDS OF EVALUATION

- Performance
- Impact
- Planning Support
- Process
- Monitoring

ROLES FOR EVALUATION

- Management Tool
- Planning Tool
- Decision Checks

PREPARING FOR EVALUATION

- Evaluation Meeting
- Establish Procedures
- Identify Users

SECTION I

Key Points of Lecture

Evaluation Users

- Many federal agencies have provided local governments with funds for manpower training programs, salaries for temporary employees, funds for curriculum development, subsidized lunches, funds for parks, self help organizations and low cost housing for the elderly. Each agency has a different set of evaluation requirements.
- local policy makers
  - want to know should the program stay the same; should it change; what is the overall effectiveness
  - managers want to know which strategy is the most economic and what is really happening

STRATEGIC PLANNING PROCESS IN BRIEF

Specification, Phase One

TURN TO
STRATEGIC PLANNING
FLIP CHART

1. Statement of broad direction and general intent resulting in the formulation of goals, sub goals and objectives.
2. Situation analysis which includes identifying the nature and extent of the problem and the potential for solving the problem.
3. Formulation of organizational objectives, those measurable statements of what the organization plans to accomplish.
4. Identification of strategies, the approach(es) which will have to be taken to reach the objective(s).
5. Identification and selection of projects to carry out the selected strategies.
6. Preparation of the plan, the design of the project.

Adapting for Management Purposes, Phase Two

1. Preparation of the work program.
2. Preparation of the budget.
3. Planning for evaluation.
4. Lobbying and getting support.
5. Submission of the plan.

Preparing for Implementation, Phase Three

1. Do all those things to make sure operations can begin as soon as the money arrives.

Operations, Phase Four

LEVELS OF DECISIONS

TURN TO
LEVELS
FLIP CHART

- City Council
- Mayor
- Chief Administrative Officer
- Departments
- Bureau/Office
- Program
- Project

Decisions are made at all these levels, the difference is in the impact of the decision and the degree of risk.

At each level, the same kinds of decisions are made.

TURN TO
DECISION KINDS
FLIP CHART

- policy
- planning
- management

Deciding on the organizational objective is a policy level decision because other decisions will flow from those and because that decision will effect everyone in the organization.

Planning decisions are made when ways have to be developed to implement the objectives or when deciding on program or project mix.

Management decisions are those that are made every day about scheduling, staffing, etc.

SECTION II

KINDS OF EVALUATION

Performance - concerned with input and output levels as opposed to project objectives.

TURN TO
KINDS OF EVALUATION
FLIP CHART

- Are outputs as planned and on schedule?
- Are intended participants being served?
- Are expenditures as planned?
- What is the average cost per participant?
- How do administrative costs compare with costs of service delivery?

Impact - attempts to measure the extent of change brought about by the program. Attempts to assess not only the intended consequences but also the unintended consequences.

Planning Support - concerned with providing data to support planning efforts.

Process - concerned with the way things happen and why.

Monitoring - a way of collecting routine data in an orderly and systematic manner, not evaluation per se.

ROLES FOR EVALUATION

TURN TO
ROLES FOR EVALUATION
FLIP CHART

Planning Tool

- Instrument for creating change in mix of projects, decision making process, systems developed.
- Allows for replanning of objectives, strategies, priorities.

Management Tool

- Provides information for local decision making concerning allocation of resources, or staff training.
- Provides same function for management as audit and control do for budgeting.

Decision Check

- Provide a guide for insuring internal consistency.
- Provide a guide for insuring the right direction.

GUIDE QUESTIONS DURING THE PLANNING PROCESS

Situation Analysis

- Have we identified the problems we should deal with?
- Have we distinguished between symptoms and causes?

Objectives

- Does the objective have a measurable end product?
- Is the identified target group the same one that has the problem?
- Do the objectives relate to the problem?

Strategies

- Does the strategy impact on the cause or the symptom?

Project Design

- Is there internal consistency with the goals and objectives?
- Does the design carry out the strategy?
- Have data needs been identified?
- Does the project have a measurable output?

Operation

- Are all events and activities occuring as scheduled?
- Are all outputs and milestones going as scheduled?

Evaluation

- What has changed in the problem situation?
- Did your efforts make any difference or have an impact on the goals? objectives? problems?

SECTION III

The evaluation meeting should include:

TURN TO
PREPARING FOR EVALUATION
FLIP CHART

- o person developing the project
- o project manager
- o citizen representative
- o client representative

Purpose of evaluation meeting:

- o reach agreement on scope of evaluation
- o reach agreement on target of evaluation
- o reach agreement on criteria for determining success

Establish evaluation procedures:

- o how will this decision affect the overall goal
- o is the decision likely to be influenced by evaluation information
- o is this decision going to influence future or recurring decisions
- o does hard data exist to help make this decision, would it be available within a reasonable cost and time frame

Identify users

- o evaluation must be responsive to needs of decision makers
- o involve those who will be using information/those who actually make the decisions and those who influence the decision makers

Stages in developing criteria:

- Identify and select criteria to select targets.
- Assess possible evaluation targets against criteria.
- Identify and select criteria to determine extent of evaluation efforts.
- Assess each selected target against criteria.
- Identify and select criteria for selecting the final set of measures.
- Assess the possible range of measures against the criteria.

CRITERIA

Deciding what and how to evaluate

- Identify and select criteria for selecting what is to be evaluated.
- Assess possible targets against criteria.
- Identify and select criteria for selecting scope and extent of evaluation efforts.
- Assess selective targets against criteria.
- Identify and select criteria for selecting final set of measures.
- Assess possible measures against criteria.

Possible criteria for selecting program or projects

- Budget
- Potential impact
- Linkage to other programs or projects
- Potential for institutional change
- Importance to constituents
- Relationship to overall goals
- Potential for continuing after initial funding

Extent of evaluation will be determined by organizational capability based on existing staff time and money.

Deciding on measures

- Importance
- Validity
- Uniqueness
- Accuracy
- Timeliness
- Privacy
- Cost
- Completeness

SUMMARY

For greatest payoff

- Evaluation results should be followed by an analysis of alternative ways to achieve programmatic objectives.
- Follow up decisions should be made based on evaluation findings.

Workshop I Instructions	1. Individually review the project design packet. Working as a group, identify those decisions in the strategic planning process that will be affected by evaluation information. Remember some decisions will not be affected by evaluation information. 2. Those identified decision situations (will be) should be noted on the attached sheets. You should have some decision situations for each phase of the strategic planning process.
Potential Workshop Problems	o Tendency to include activities rather than decision points.
Criteria For Evaluating Workshop Output	o Decisions should reflect those which evaluation can influence.
Time	Lecture - 1 hour Workshop - 2 hours Process - 1 hour

Workshop II Instructions	1. Working as a group, identify the kinds of evaluation information needed to make those decisions identified.
Potential Workshop Problems	o Tendency to identify any information without considering its appropriateness to the specific decision situation
Criteria For Evaluating Workshop Outputs	o Appropriateness o Timeliness
Time	Lecture - 1 hour Workshop - 1 hour Process - 1 hour

Workshop III Instructions	1. Working as a group, identify the criteria which will enable you to evaluate the results of the decision. For example, if the decision was to--implement a management information system, what criteria will allow the manager to determine the effectiveness of the management information system.
Potential Workshop Problems	None
Criteria For Evaluating Workshop Output	Instructor should use his/her own discretion.
Time	Lecture - 1 hour Workshop - 1 hour Process - 1 hour

Workshop IV Instructions	Working as a group, identify those criteria which enable you to measure your effectiveness in accomplishing the overall plan.
Potential Workshop Problems	None
Criteria For Evaluating Workshop Output	Instructor should use her/his own discretion.
Time	Lecture - None Workshop - 2 hours Process - 2 hours